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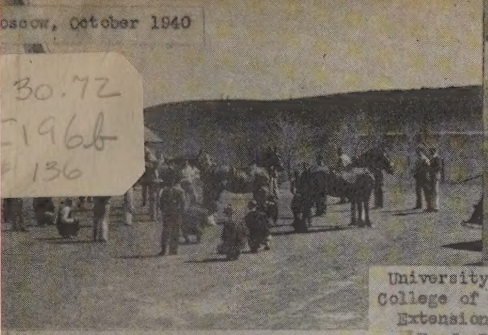

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LIVESTOCK JUDGING

MAL HUSBANDRY AND DAIRY HUSBANDRY SECTIONS

Cooperative Extension Service in Agriculture and Home Economics of the State of Idaho University of Idaho College of Agriculture and United States Department of Agriculture Cooperating

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Livestock Judging

Introduction

TO MANY people no phase of the livestock industry offers greater appeal than the art of judging livestock. One has but to attend any of the numerous shows, both large and small, to note the keen interest which spectators as well as exhibitors have in the judging of livestock. It is not to be understood, however, that the most important usage of judging is confined to the show ring. It has a great number of additional uses which are of practical value, such as the judging the breeder continuously must do in intelligently selecting sires and females to attain high production and to maintain this high production when once attained. The feeder must be a good livestock judge in order to stay in the business. He must know if the feeders to be purchased are of the correct conformation and quality to go into the feed lot and not only produce economical gains but whether they will also have desirable market outlet. In addition to all this, livestock judging is helpful in the sale of commercial and purebred livestock.

Furthermore, the association with livestock has a very definite value in building character and an equally great influence in developing intellect. Judging teaches the observation of phenomena in a critical and systematic manner and the correlation of a series of relevant facts into a logical solution. It stimulates the desire to attain perfection since it requires the establishment of a mental image of the ideal animal. It teaches patience and the need for calm, deliberate decisions and thus prepares the student to make logical decisions on other matters. The giving of reasons for placing classes is valuable training in the presentation of ideas in a clear, forceful, and convincing manner. Thus livestock judging offers much to the beginner.

He may oftentimes feel that he is not making as rapid progress as he should. However, if he will have the patience and the determination to stay with judging until he has mastered the fundamentals, he will find that his interest in animals will make judging both fascinating as well as profitable.

Judging Beef Cattle

D. E. BRADY*

LEARNING to judge beef cattle involves: first, a fundamental knowledge of the points of the animal; second, a mental image of the ideal type for both breeding and fat cattle; and third, sufficient practice to be able to recognize differences between cattle. At the beginning it is necessary for the student to become

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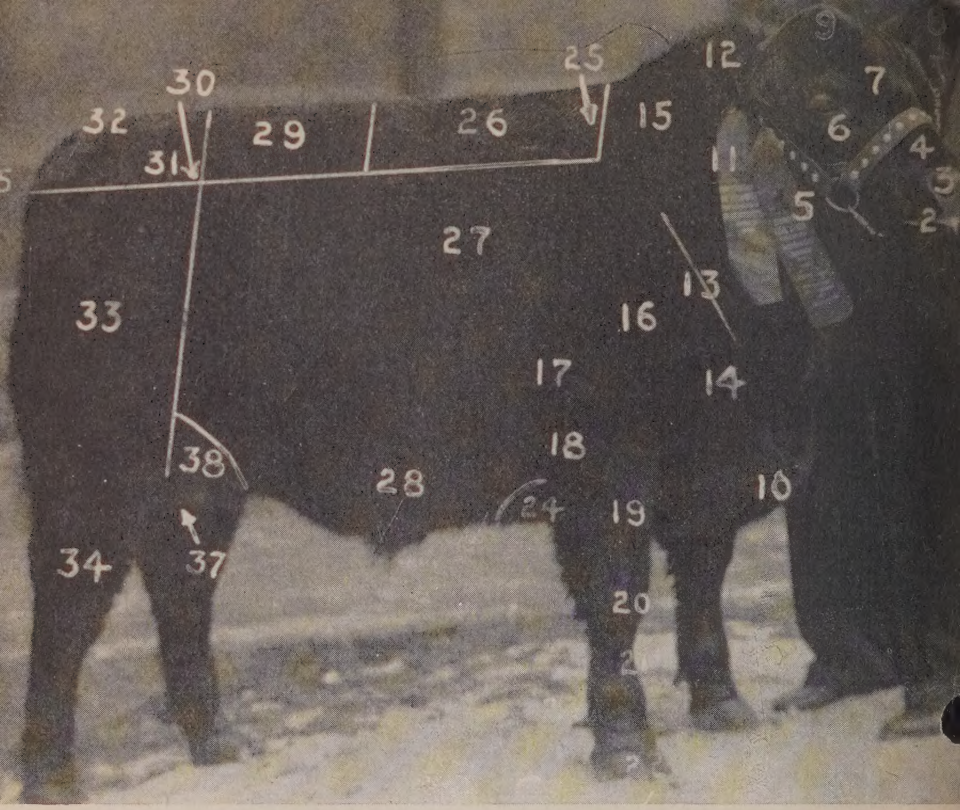

Figure 1.—Points of the steer

1. Muzzle	11. Neck	20. Knee	30. Hook or hip
2. Mouth	12. Crest	21. Shank	31. Rump
3. Nostril	13. Shoulder vein	22. Foot	32. Tail head
4. Face	14. Points of shoulder	23. Dew claw	33. Thigh
5. Jaw	15. Top of shoulder	24. Fore flank	34. Hock
6. Eye	16. Shoulder	25. Crops	35. Tail
7. Forehead	17. Fore ribs or heart girth	26. Back	36. Switch
8. Ear		27. Ribs	37. Cod
9. Poll	18. Elbow	28. Belly	38. Rear flank
10. Brisket	19. Arm	29. Loin	

familiar with the various points of the animal; the location of these points is shown in Figure 1.

Essential Points in Judging Beef Cattle

The customary procedure in judging livestock is to secure four placable animals and then to have the person judging evaluate them on their merits. This, generally, is too difficult for the beginner since he does not have in mind just what is desired. The beef judging card, however, will aid in overcoming this difficulty. If the beginner will place the animals on the basis of the points which are briefly described, he will soon fix in his mind what is desired, especially if the instructor will check the placings for correctness. After using the judging card on several classes, the student should be prepared to judge cattle on the basis of the animal as a whole rather than on each individual point.

BEEF JUDGING CARD

University of Idaho—Department of Animal Husbandry

	Placing			
	1st	2d	3d	4th
I. General Appearance: straight top line, deep, broad, uniform in width, low-set, compact, symmetrical, stylish, standing squarely, trim middle				
II. Form:				
1. Head—Muzzle broad, nostrils large, eyes large and clear; face short, clean, and slightly dished; forehead broad; ears medium size and fine texture; horns medium size and well-shaped				
2. Neck—thick, short, blending smoothly into shoulders; throat clean				
3. Shoulder—smooth, well-covered with flesh, compact on top; shoulder vein smooth and full				
4. Breast—wide, full; brisket neat and trim with little dewlap				
5. Fore legs—short, strong; arm full, shank medium fine				
6. Chest—deep, wide, girth large, crops full				
7. Back—wide, straight, and thickly covered				
8. Loin—wide, straight, and deep-fleshed				
9. Ribs—well sprung and smoothly covered with firm flesh				
10. Flanks—full and low				
11. Hooks—neatly laid in and smoothly covered				
12. Rump—long, wide, even; level and free from patchiness				
13. Thighs—deep, broad, wide, and full				
14. Twist—full and deep				
15. Legs—straight, strong; shanks medium fine				
III. Finish: deep, mellow, firm covering especially over back, ribs, and loin; freedom from patchiness and rolls desired. (Finish is of great importance in fat classes, but is not so important in breeding classes as long as the ability to take on finish is indicated)				
IV. Quality: smooth in frame and finish; hair fine, soft; hide mellow; bone medium-size and clean				
V. Dressing Percentage: well finished, not paunchy, medium weight hide. (Not considered in judging breeding cattle)				
VI. Breed and Sex Character: (Applies only to breeding classes and will be discussed in the section dealing with the various breeds)				

Figure 2.—A nicely balanced Shorthorn calf owned by the University of Idaho.

Fat Cattle

When cattle are sent to market for slaughter, they are purchased at a rate of so much per hundredweight. Actually the packer buyer, or whoever purchases the cattle, estimates the "kill" in the cattle. The buyer knows the selling price of the various grades of carcasses and what he must do is to figure out the grade of carcass the cattle under consideration will make, and what percentage they will "dress out." In making these estimates, the buyer considers the following points: (1) general appearance, (2) finish, (3) dressing percentage, (4) conformation, and (5) quality. Each of these points has been described in detail on page 5 and will be discussed in a general way below.

General appearance is of great importance in fat cattle. Preference is given to cattle having a well-balanced form as well as straight top and bottom lines to give a rectangular appearance when viewed from the side. Depth and width of body are also important. A steer which possesses style generally brings more money than a similar animal which is poor in this respect. Fat cattle that are low in the back or rump, wasty about the middle, upstanding, narrow in body, or thinly fleshed are discriminated against.

Finish refers to the amount of fat or condition an animal is carrying. The best fat cattle carry a deep, mellow, but firm, covering over the back, rib, and loin and are full in the flank and cod. Not only is the amount of covering important, but also the distribution of the fat as well. Fat cattle which have bare spots along the top or that are "patchy" with fat about the tailhead and hooks, do not meet with favor. The fat covering should not be soft or flabby, nor should it be excessive, but on the other hand, a hard handling steer is not desirable either.

Dressing percentage is very closely associated with form and condition. It refers to the ratio of the dressed carcass weight to the live animal weight. For example, if a 1000-pound live steer hangs up a 600-pound carcass, we would say the dressing percentage was 60, that is, $\frac{600}{1000} \times 100 = 60$ per cent. Other things being equal, the higher the dressing percentage, the greater the value of the animal on the hoof. High dressing cattle are well-finished, trim of middle, and generally do not have excessively heavy hides. The most common cause of a low dressing percentage, however, is a lack of finish.

Conformation has been presented in detail in the outline. The ideal comformation, as far as the packer is concerned, is one that has the greatest percentage of weight in the more valuable parts such as the ribs, back, hind-quarters and loin, and the smallest percentage in the low-priced regions such as the head and shoulders. Since, however, constitution and vigor are also of great importance, we must give considerable importance to these parts. A short, broad head; deep, wide breast; and well-sprung ribs are characteristics associated with constitution and vigor. Animals which are leggy, narrow-bodied, and lack depth of fleshing over the ribs, back, and loin, or lack depth and fullness in the rear quarters, are severely discriminated against.

Quality is difficult to define. It is associated with smoothness of fleshing and refinement of bone, hide, and head. Quality is of great importance, but it is possible to overemphasize it. Too great a refinement generally results in a reduction in size and in failure to gain economically. Cattle which are, however, hard handling, coarse-haired, plain-headed, and lacking in smoothness of fleshing are unpopular with good livestock judges.

Breeding Cattle

The judging of breeding cattle and fat cattle is essentially similar. Since breeding cattle are not to be butchered, but rather used for breeding, condition or finish does not receive nearly the attention it does in judging fat stock. The ability to fatten readily and smoothly is not disregarded however, since this characteristic is inherited. In judging breeding cattle, "sex character" and "breed character" are points which receive special attention. The ability of animals to transmit their characteristics to their offspring

is called "prepotency." This ability appears to be associated with well-developed sex characteristics. In the bull, a bold, strong, masculine head with a full forehead, strong horn, and full neck together with a well-developed crest and shoulder, is desirable. In the female, however, refinement of the whole body is preferred. Her head and neck should be neat and short, and blend in smoothly at the shoulder. Any indication of coarseness is to be severely criticized. The hide and hair of the female should also be smoother and more mellow when compared with that of the bull or even the steer. Breed character includes those points which make it possible to distinguish one breed from another, such as coat color, shape of head and horns, size and body conformation, as well as other distinctive points. These characteristics will be taken up in the description of the principal breeds of beef cattle.

Procedure in Judging Beef Cattle

When judging a class of beef cattle, it is well to stand 10 to 15 paces from the class to gain an accurate picture of the general appearance of the animals. Note if they fulfill the requirements set up under "General Appearance." From the side, note the depth of body, the straightness of top and bottom lines, the shortness of leg, and plumpness of hind quarters, as well as the length and levelness of rump and smoothness of tail setting.

From the rear, the judge should observe the width of body and the smoothness over the hooks. It is important that the fleshing in the thigh and twist extend close to the hock. Note also if the animal is correctly set on his hind legs.

From the front, note the appearance of the head, its balance and relation to the rest of the body. Attention should be given to detecting such faults as narrowness of body, too great length of body, or coarseness. Note the width of chest floor and the smoothness of shoulder conformation. See if the ribs are close together and well sprung, and whether the hooks are neatly laid in and well covered.

If the cattle in the class are gentle, it is advantageous to handle them. Attention should be paid to the thickness and uniformity of fleshing over the shoulders, back, ribs, and loin. It is especially important to feel if the lower rib is thickly fleshed. In fat classes, feel the covering over the hooks and pins.

Breeds of Beef Cattle

The **Aberdeen Angus** is the smallest of the major breeds of beef cattle. In show condition mature bulls and cows will weigh about 2000 and 1600 pounds respectively. These cattle are very low set, compact and uniform in conformation. The smooth, thick fleshing qualities of Aberdeen Angus steers have won them an enviable position at the major fat shows. This breed is polled and entirely black in color except the frequent presence of white back of the navel, which, while not desirable, is nevertheless permissible.

Cattle belonging to this breed are often criticized for being slack of fore rib; however, they possess excellent constitutions. As a breed they are superior in quality of head and bone, although the hide is often rather thick and the hair wiry. In the show ring Aberdeen Angus which are rough or patchy are sharply discriminated against.

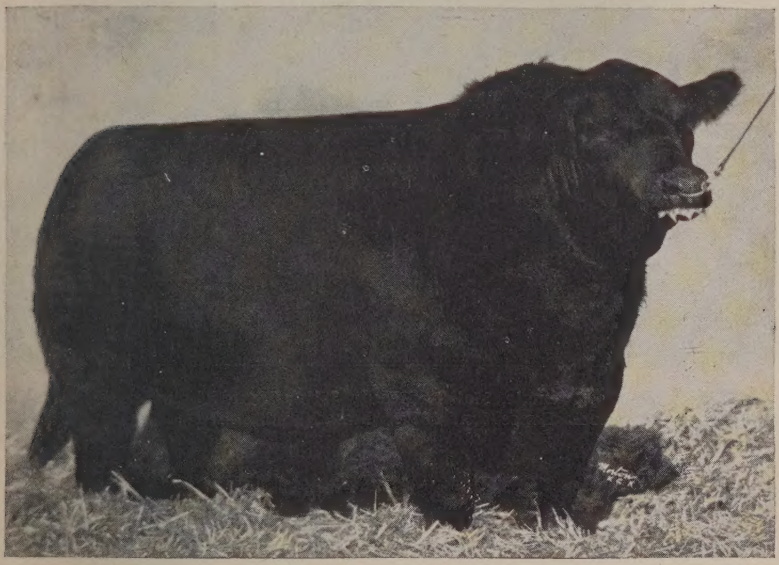

Figure 3.—Aberdeen Angus bull, Envious Blackcap B 6th. Grand champion at the International Livestock Exposition, 1939. Bred, owned, and exhibited by John B. and Elliott Brown, Rosehill, Iowa.

Herefords are distinctive in uniformity of color. The face, jaws, dewlap, brisket, belly, flank, shanks, and switch are white. The rest of the body, except for the top of the neck, is red. White showing back of the crops, high on flanks or legs or extending past the shoulders or down along the back is objectionable. Red occurring under the neck, across the breast, or around the eyes, or black hair in the switch is also undesirable.

Mature bulls and cows in show condition will weigh about 2200 and 1700 pounds respectively. In body conformation the Hereford is more rectangular than the Aberdeen Angus. Cattle of this breed are noted for their great chest and middle capacity, strong constitutions, excellent grazing characteristics, and good feeder heads. Their hide is generally loose and pliable although often somewhat heavy. Faults which may occur in the breed include excessive dewlap and brisket, peaked rumps, high tail heads, unevenness of fleshing, smoky noses, and dark horn tips.

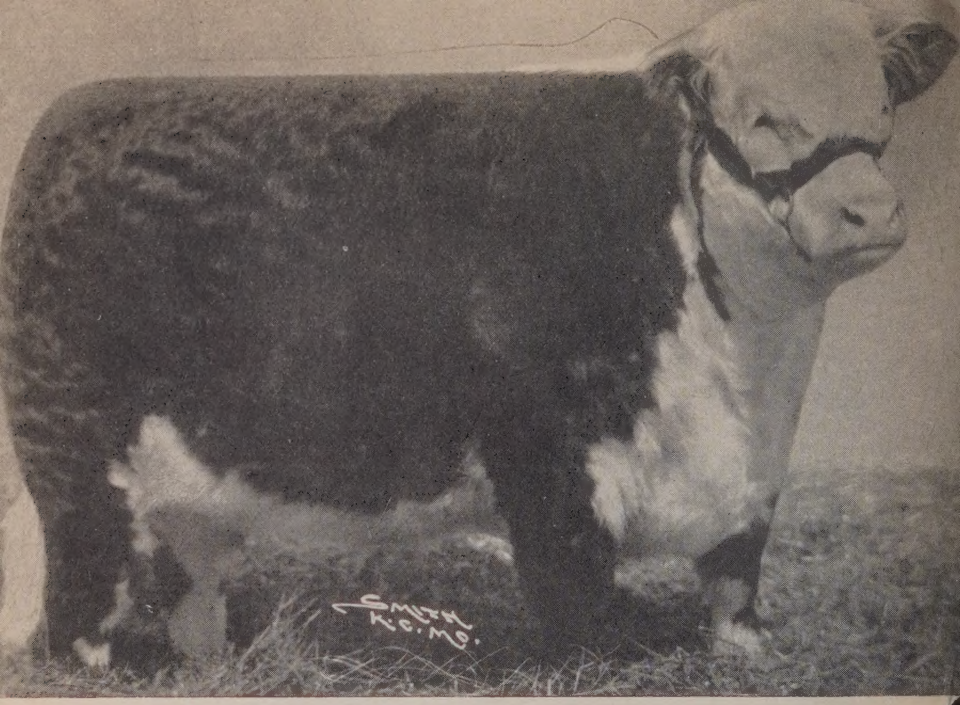

Figure 4.—Hereford female, Mabel's Beauty 35th. Grand champion female at the International Livestock Exposition, 1937. Owned and exhibited by Foster Farms, Rexford, Kansas.

Polled Herefords. This breed is similar to the Hereford, except for the polled character.

Shorthorns vary greatly in color. They may be red, white, roan, or spotted. The reds and dark roans are the most popular while the spotted cattle are especially unpopular. Mature Shorthorn bulls and cows in show condition will weigh 2200 pounds and 1700 pounds or more, respectively. The Shorthorn is more rectangular in outline than other beef breeds. The top is broad and flat, the ribs well sprung, and the body thickly fleshed in good specimens. The Shorthorn is fairly compact and is unsurpassed in style and carriage. The hide and hair are generally of high quality. Shorthorns have excellent dispositions and are good feeders. Some individuals tend to become excessively rough when in high condition and are subject to criticism due to lack of fullness in the fore rib and covering over the shoulder. Frequently Shorthorns are too upstanding and this type should be discriminated against. The muzzle should be buff-colored without any black tinge. The horns should be yellow in color. Black or white horns are objectionable.

Figure 5.—Shorthorn bull, Raveni Masterpiece. Grand champion at the International Livestock Exposition, 1934. Bred by T. Dorsey Jones, Shelbyville, Indiana. Owned and exhibited by Robinwood Farms, Greensburg, Indiana.

Polled Shorthorns. This breed is similar to the Shorthorn except for the polled character.

Judging Dairy Cattle

D. L. Fourt*

EVERY judge of dairy cattle should be familiar with the names, locations, and the correct form of the different parts of a dairy cow. The correlation of names and form is essential in order to receive proper benefit from instruction in judging.

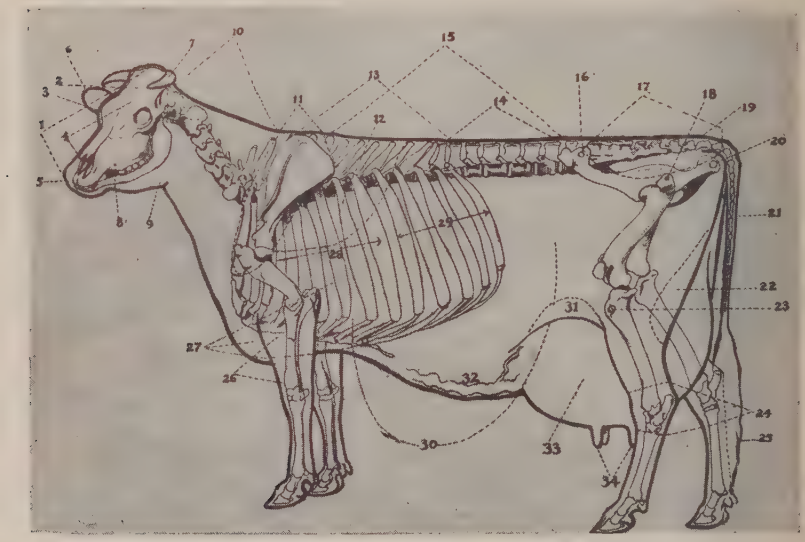

Figure 6.—Parts of the dairy cow

1. Head
2. Forehead
3. Eye
4. Face
5. Muzzle
6. Ear
7. Horn
8. Jaw
9. Throat
10. Neck
11. Shoulder
12. Crops
13. Chine
14. Loin
15. Back
16. Hip or hipbone
17. Rump
18. Thurl
19. Tail head
20. Pin bone
21. Tail
22. Thigh
23. Stifle point
24. Hock
25. Switch
26. Forearm
27. Chest
28. Fore ribs
29. Back ribs
30. Barrel
31. Flank
32. Mammary veins
33. Udder
34. Teats

The American Dairy Science Association has prepared a general score card covering the essential characteristics of a dairy cow. It lists and describes each part in groups under five heads, and allots a definite numerical value to each.

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Purpose and Value of the Score Card

Judges of dairy cattle must know the relative importance of each part of the animal. Major characteristics are described in detail on the general score card, and the numerical value ascribed to each part. One desirous of learning to judge dairy cattle should become thoroughly familiar with these descriptions, and with the points allowed for each division.

In comparing the strong and weak points of two animals, it should be remembered that while the score card is the guide as to value of different parts, if marked deficiency should occur, a greater cut should be made than appears on the score card. For example, while the score card allows only 5 points for rump, if an animal has a very sloping rump, more than 5 points should be deducted. A very pendulous udder, or a funnel shaped udder would mean a deduction of more than 6 points. However, the score card should be used only to aid in acquiring knowledge of the relative values of the different parts, since dairy cattle are judged in the show ring by comparison.

The placing cards should be filled in and handed to the instructor before the reason cards are distributed.

DAIRY CATTLE REASON CARD FOR BEGINNERS
University of Idaho—Department of Dairy Husbandry

Class.....

Ranking	1st	2d	3d	4th	Grade
Breed type and general appearance					
Dairy conformation (temperament)					
Constitution					
Capacity to consume and digest feeds					
Mammary system					

Final grade.....

It is suggested that the reason cards be used for beginners to familiarize them with the essential characteristics of a dairy cow. Reason cards may be discontinued after the student judge has become familiar with the major characteristics, and has formed the habit of ranking the cows.

What is Desired in a Dairy Cow

The primary function of a dairy cow is milk production, and the judging of dairy cattle is based on the theory that there is a relationship between form and function, or between type of an animal and her ability to produce milk.

Since the dairy cow converts feed into milk, the ideal cow has characteristics indicating ability to perform this function. These

SCORE CARD FOR DAIRY COWS

University of Idaho—Department of Dairy Husbandry

(Adopted by the American Dairy Science Association in 1922)

Scale of Points	Rank of cows: 1st	2d	3d	4th
1. Characteristics Indicating Dairy Form				
A. Style and general appearance .....*20 points*				
1. Head erect, clean cut; neck slender; eye prominent, alert and placid .....3 points				
2. Back straight and strong; hips wide apart and level ..... 4 points				
3. Rump long, wide, and level; thurl, wide apart and high; level tailsetting.....5 points				
4. Legs straight; bone fine ..... 3 points				
5. General build, rugged and large for the breed without coarseness; Jerseys 950 lb.; Guernseys and Ayrshires 1100 lb.; Holsteins 1350 lb. .....5 points				
B. Dairy Conformation .....*15 points*				
6. The cow should be clean cut, with feminine appearance; absence of tendency to lay on fat ..... 5 points				
7. Shoulders, withers, vertebrae, hips, and pin bones prominent and free from fleshiness. (Period of lactation to be considered.) ..... 4 points				
8. Loin wide; ribs long and wide apart....3 points				
9. Disposition active, with good nerve control ..... 3 points				
2. Characteristics Indicating Constitution, Vigor and Condition .....*15 points*				
10. Chest broad and deep with well sprung ribs ..... 8 points				
11. Nostrils large and open ..... 2 points				
12. Condition thrifty and vigorous, in good flesh but not beefy .....5 points				
3. Characteristics Indicating Ability to Consume and Digest Feeds .....*15 points*				
13. Muzzle large; mouth broad .....1 point				
14. Skin mellow, loose, medium thickness and showing good circulation and secretion; hair soft ..... 4 points				
15. Barrel deep, wide and long, well supported; ribs far apart ..... 10 points				
4. Characteristics Indicating Well-Developed Milk Secreting Organs .....*35 points*				
16. Udder:				
A. Capacity—large in size ..... 7 points				
B. Quality—pliable, free from lumps..7 points				
C. Shape—extending well forward and well up behind, level on floor, not pendulous; quarters full and symmetrical .....6 points				
17. Milk veins, large, long, crooked, branching; milk wells large and numerous .....7 points				
A. Milk veins on udder crooked, numerous and large .....3 points				
18. Teats convenient size, uniform, and well placed ..... 5 points				
Total Points ..... *100 points*				

Note: In case of any marked deficiency or any serious abnormality, as many as 50 points may be deducted from the total score of an animal. Beware of giving a thin beef cow as good a score as a dairy cow.

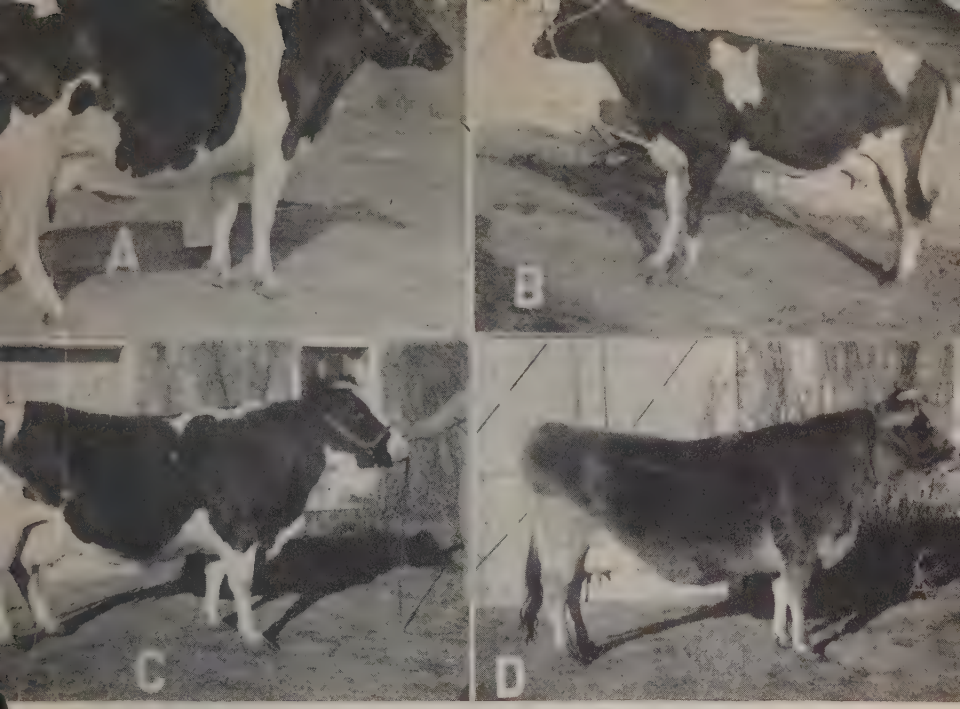

Figure 7.—**A**, Desirable type, showing large capacity, strong constitution, straight back, clean cut throughout, and freedom of excess flesh; **B**, undesirable type, shallow body, weak constitution; **C** and **D**, undesirable type, weak back, short, thick neck, beefy throughout.

characteristics are: capacity to consume and digest large quantities of feed; constitution and vigor necessary to regularly and consistently assimilate large quantities of feed, and to stand the strain of heavy milk production; temperament to convert feed into milk instead of body fat; and characteristics indicating extensive milk secreting organs, which organs take the milk constituents from the blood, while circulating through the udder, and store them in the udder in such form that they may be conveniently extracted.

Breed Type and General Appearance

A dairy cow should conform to the characteristics of her particular breed as to head, color and size.

General appearance includes the smooth blending of all parts, which should result in symmetry and balance of the cow, combined with style, carriage and alertness. It includes the characteristics combining high production and beauty. In addition to balance of mammary system, capacity, constitution and conformation, it is desirable to have a strong, straight back and top line, and a broad, level loin. A long level rump, extending to, and including the tail head is also desirable. Pin bones should be wide and almost level with the hip bones, and the tail head should be slightly above and neatly set between the pin bones.

Dairy Conformation and Temperament

Dairy conformation and temperament denote the tendency of a cow to convert feed into milk rather than into body fat, and are characterized by angularity of body, general trimness and refinement, general openness throughout, and a freedom from excess fat.

The ideal dairy cow has a neck that is long and clean, blending smoothly into the shoulders and brisket, with a clean-cut throat and dewlap. Its withers are prominent and wedge-shaped, with the shoulder blades slightly lower than the vertebrae. Ribs are wide apart, hips and pin bones prominent, denoting a general lack of beefiness, appearing just opposite from the beef cow in being active and alert. The skin is pliable, loose, of medium thickness, with soft, fine hair, indicating good circulation and secretion. Dairy temperament does not mean that a cow should be thin in flesh. It is expressed by dairymen as "milky" in appearance. A dairy cow should carry sufficient flesh to indicate that she is thriving.

Capacity to Consume and Digest Feed

A high-producing cow must consume and digest large quantities of feed. This requires a large barrel. Capacity is indicated by the length, depth, and breadth of the body where the organs of digestion are located. The barrel is long and deep, strongly supported, with ribs wide apart and well-sprung. The size of the muzzle is closely correlated to feed capacity, so the muzzle should be broad with open nostrils.

Size is an important factor. Other characteristics being equal, the larger the cow within the breed, the better. However coarse-boned cows lacking quality, refinement, and dairy temperament are not desired. Small cows within the breed may be too refined and lack capacity and constitution.

Constitution and Vigor

Constitution and vigor refer to the ability of an animal to stand up under the strain of heavy milk production. This requires a large heart and lung capacity, which is indicated by a deep, full heart girth and great width of chest. The heart girth should be large, the fore ribs should be long and well-sprung, and the chest floor, just behind and between the front legs should be wide and full.

Mammary System

The mammary system consists of the udder, milk veins, milk wells, and teats. A high-producing dairy cow has a large, strongly attached, well-carried udder of high quality. The udder is large, as it is the storage reservoir for milk. It is long, wide, and of moderate depth, with a level floor, extending well forward. However, it should not be funnel shaped or tilted. The rear attachment is high and wide. All quarters are evenly balanced and symmetrical. The udder is soft, pliable, and elastic, indicating active milk glands which take the milk constituents from the blood. A hard, meaty udder or one containing lumps is not desirable. A good udder

Figure 8.—**A**, Side view, true type rump; **B**, High pelvic arch, rough over rump; **C**, and **D**, rounding rumps with low pin bones; **E**, strong constitution, full chest; **F**, weak constitution, narrow chest.

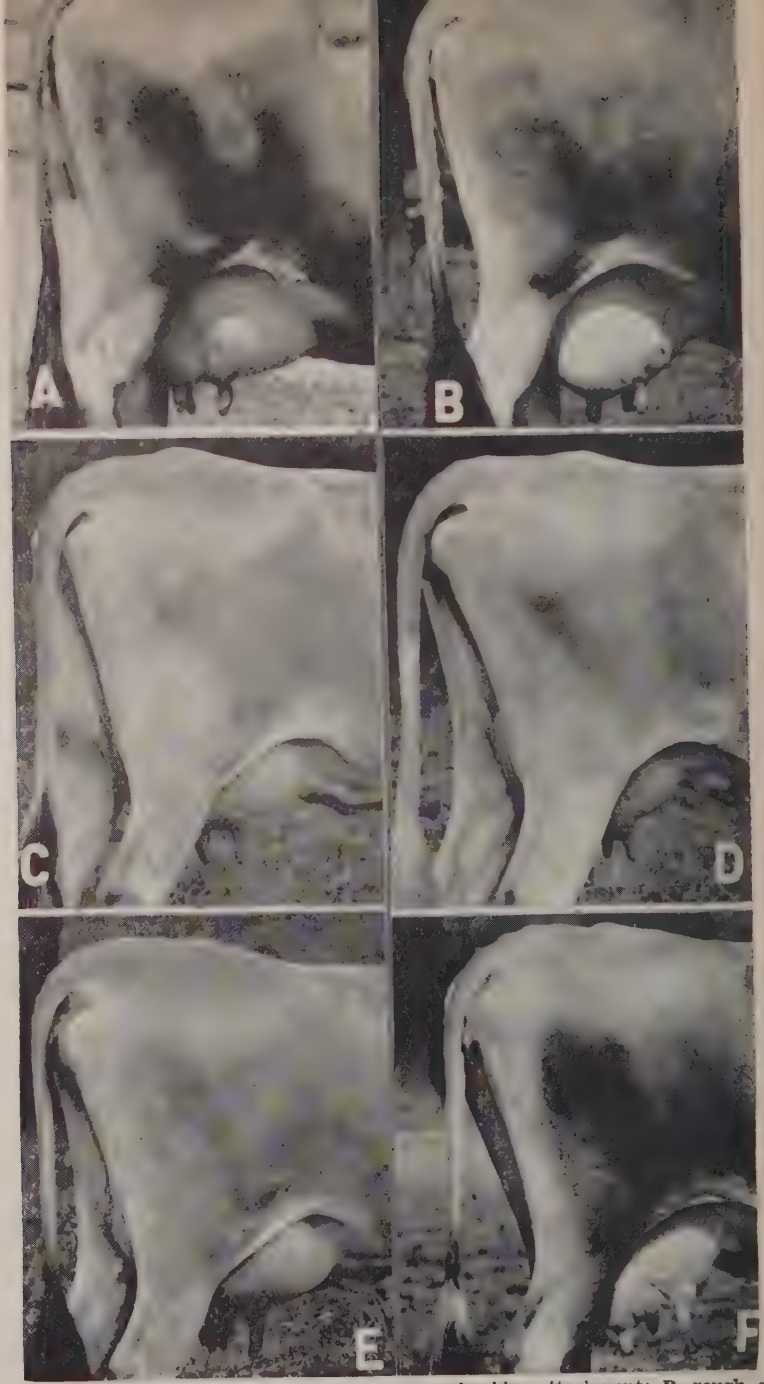

Figure 9.—**A**, Side view of desirable rump and udder attachment; **B**, rough over rump, weakly attached, short udder; **C**, **D**, **E**, and **F**, rough over rump, undesirable.

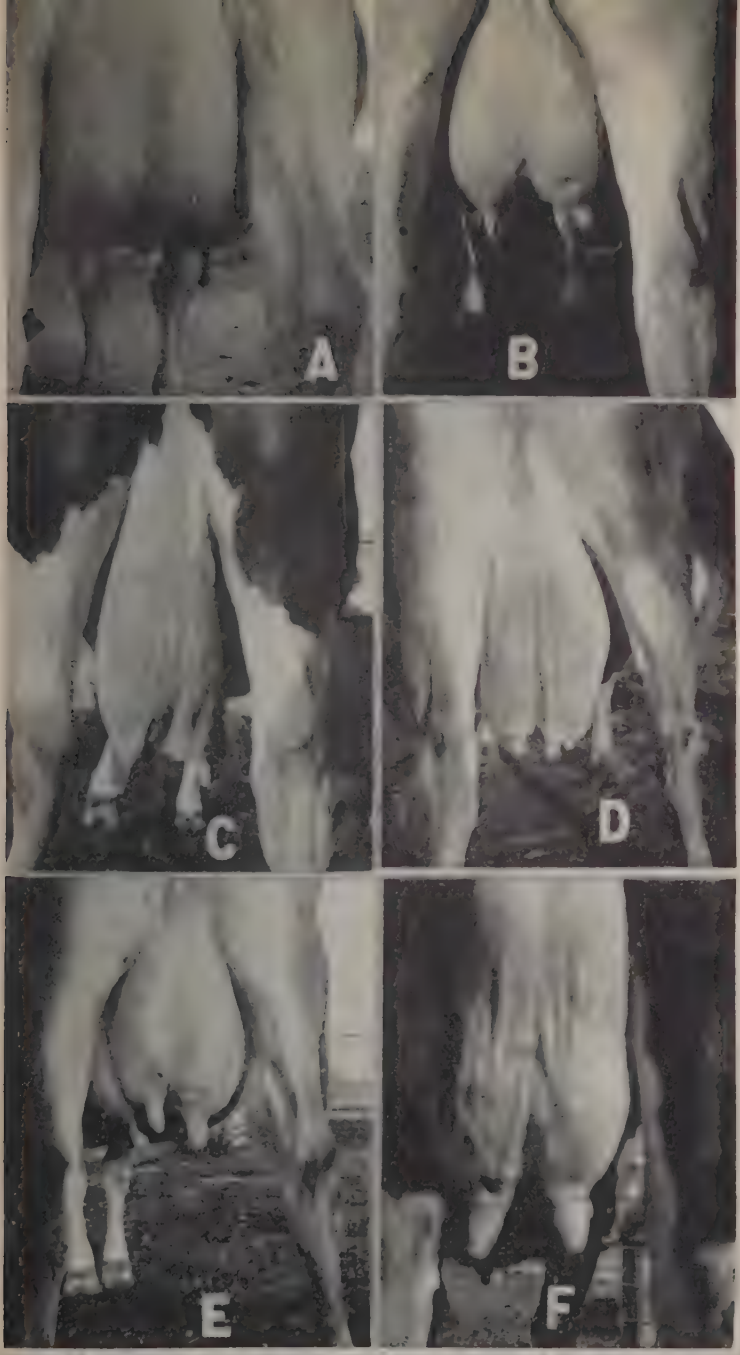

Figure 10.—A, Good rear udder. B, weak rear attachment of udder; C, pendulant rear udder, teats spread. D, cut up between rear teats, easy rear attachments; E, weak rear quarter; F, cut up between rear teats.

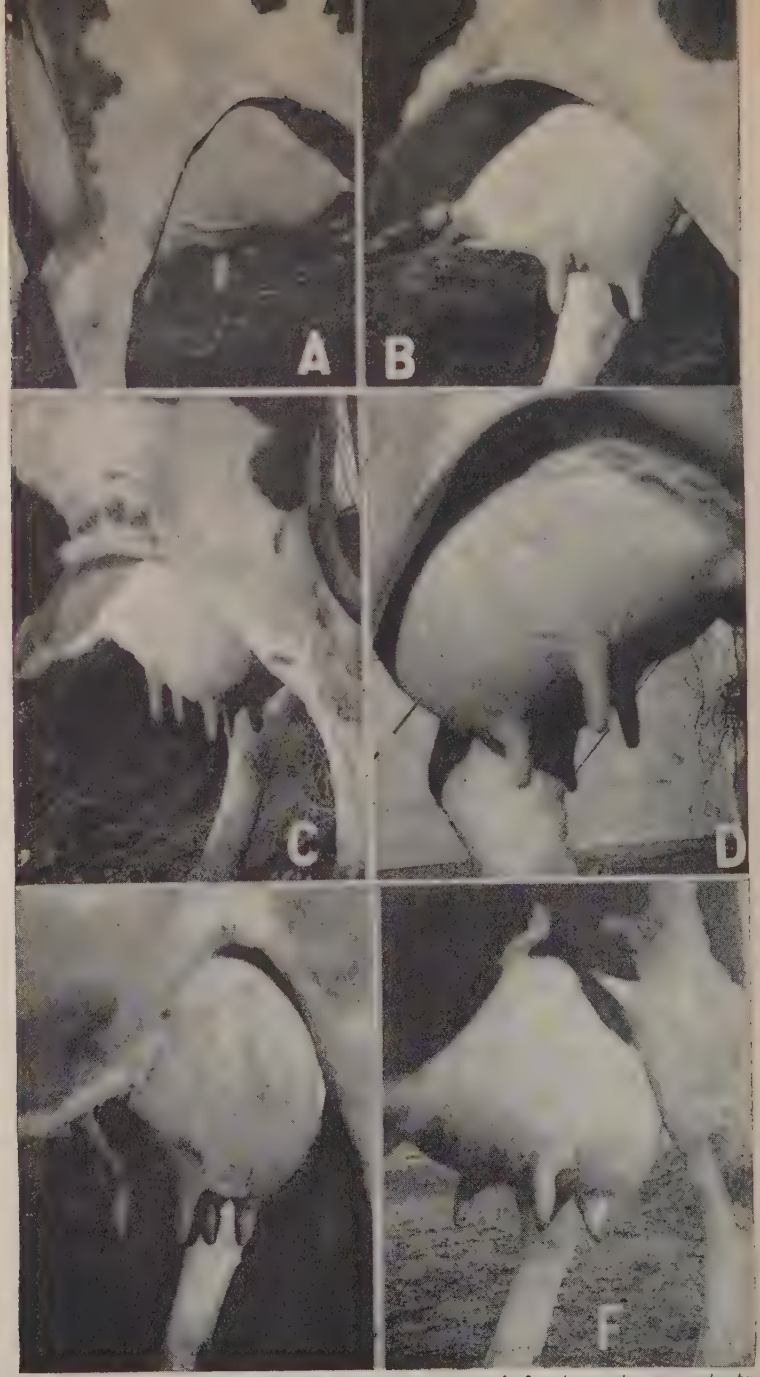

Figure 11.—**A**, Side view of desirable udder; **B**, weak front quarter, rear teats not plumb; **C** and **D**, udder tilted, unbalanced; **E** and **F**, udder too far forward.

shrinks greatly when milked, while a meaty udder remains hard and does not contract very much. The attachments both front and rear are strong to prevent the udder's breaking away from the body and becoming pendulous. This weakness is very objectionable, as a pendulous udder is easily injured and often becomes infected. Teats should be wide apart, squarely placed, of convenient size, and free from obstructions. Blood vessels on the under side of the body are called milk veins, and should be long and crooked, prominent and branching. Veins on the udder should be numerous and clearly defined.

Steps in Learning to Judge Dairy Cattle

The *first step* in learning to judge dairy cattle is to learn the names and locations of the parts of a dairy cow.

The *second step* is to learn what is desirable in a dairy cow. This is best illustrated by a cow-judging demonstration.

The *third step* is to study the general score card and learn the values of the different parts. This can be demonstrated to the best advantage by scoring a good and a poor cow. The two cows should be much different in type in order to emphasize the relative values of different points.

The *fourth step* is comparative judging. This is usually accomplished by ranking the cows on the five major characteristics:

1. Breed type and general appearance.
2. Dairy conformation and temperament.
3. Capacity to consume and digest food.
4. Constitution.
5. Mammary system.

It is a mistake to rank the cows on major characteristics and then arrive at the top cow by determining which one ranked first the largest number of times. Ranking of cows on the five major characteristics should be practiced only at the beginning in order to become familiar with the important divisions.

Method of Comparative Judging

In comparative judging, animals are ranked according to trueness of type, so the first step is to fix in the mind a picture of the ideal animal. This can be accomplished by a careful study of the correct form or type as presented in ideal type models and pictures of representative animals of different breeds. Each breed has certain peculiarities such as color, size, and special type of head which are common to the breed alone and are known as special characteristics indicating breed type. However, the fundamental physical construction is the same for all breeds. In judging dairy cattle, do not overlook the primary function of a dairy cow; that is, milk production.

Procedure in Judging

Usually, four cows are used in judging practice and judging contests, and are numbered or lettered from left to right from behind.

First, stand off 20 to 25 feet from the cows and get a general impression of the group, preferably as they walk. It is always desirable to see the animals walk, as this may bring out defects such as a sloping rump or lameness which may not be observed while standing. While the animals are at a distance, observe and compare the cows for the major characteristics from the side. Note the general appearance and breed type, size, angularity, straightness of back, levelness of rump, and the presence of outstanding defects, if any. This view also shows the general balance and the relative capacity and constitution of the animals as indicated by the length and depth of barrel and the depth through the heart girth. Also, the attachments, shapes, and sizes of the udders should be compared at this time.

Often there is an outstanding cow, which is superior in practically all characteristics or strong in several and not weak in any. There may be one animal much inferior to the others. She may have the udder broken away, funnel shaped, or tilted, or she may lack barrel or be pinched in heart girth, have a sloping rump, or some other weak point or points which make her an easy bottom for the class.

Second, the animals are lined up side by side, all facing in one direction. From the rear, observe the smoothness of rump, width of pin bones, the size and attachment of rear udder, the evenness of rear quarters and the placement of rear teats. Especially note spring of rib, width of barrel and the smoothness of the withers and crops, also the straightness of the hind legs. The front view permits comparison of character of heads, and the width of chest.

Third, the animals are again lined up one behind the other, all facing in the same direction and near together. This view presents a final opportunity to compare the topline and the relative depth and sizes of the barrels and udders, also the placement of teats, and levelness of the udder. It is necessary to be at least 20 feet away to make the best comparison.

Fourth, if close examination of the best appearing cow fails to disclose any defects, place her first, in mind, and if there is an extremely poor animal, dispose of her by mentally placing her fourth. Take the pair which are more nearly equal and study them from side, rear, and front. Decide which of the two should go second, and put the other in third place.

Sometimes a class naturally divides itself into two pairs. Observe each pair and decide which pair should go at the top and which at the bottom, then pick the superior animal of each pair.

Handling the Animals

In judging contests, handling of animals is often prohibited; but in such cases, it is assumed that all animals are sound except for such defects as can be seen. This requires closer observation of the attachment of the udder on both sides and in the rear, also close observation regarding evenness of all quarters, length and size of veins, and the fineness and silkiness of the hair. However, the purpose of handling is merely to verify the previous impression as

to the above points. If handling is permitted, feel the udder to determine whether it is soft and pliable, or if hard lumps are present. The front attachment of the udder, the size and crookedness of the milk veins, and the size of milk wells should be examined. Judges feel of the hide to ascertain its thickness and mellowness and the softness of the hair.

Judging Young Animals

In judging young animals, the same characteristics are desired as in mature animals, except that less emphasis is given to mammary development. The udders of heifers should be examined for uniformity of quarters and teats, length and width of udder, and placement of teats.

The same breed type and general appearance, dairy conformation, constitution, and capacity are desired in heifers as in older cows, but care must be taken to differentiate between beefiness and good condition, as young animals are usually in good condition.

Judging Bulls

With the exception of the mammary system, the same essentials are looked for in judging bulls as in judging cows. In addition, the bull should possess masculinity. This is indicated by massiveness, heavy front quarters, and a well-developed crest. The head is broader and the horns coarser and thicker than those of a cow.

Distinguishing Breed Characteristics

In addition to the features listed on the general score card, each breed has certain distinctive breed characteristics which are very important and must be considered in judging. Some characteristics of breed type are as follows:

The **Holstein** is the largest of the breeds of dairy cattle. Cows should weigh between 1300 and 1600 pounds, and bulls 2000 pounds and up. Color markings must be black and white, varying from nearly all white to nearly all black (*Figure 12*).

The **Jersey** is the smallest of the dairy breeds. Weight of cows should range between 900 and 1100 pounds and bulls between 1300 and 1600 pounds. Color markings may vary from a solid black, red, or fawn to white spotted. The Jersey head is distinctive in having a dished face, and usually large full eyes and incurving horns (*Figure 12*).

Guernsey cows should weigh about 1100 pounds and bulls about 1700 pounds. Color markings are some shade of fawn with white markings. This varies from almost red to a light fawn with various sizes of white markings. Yellow color is present inside the ears, on the udder, and at the end of the tail. The Guernsey head is moderately dished and the horns curve forward and are yellow in color at the base (*Figure 13*).

The **Ayrshire** is slightly larger than the Guernsey. Ayrshire cows should weigh from 1100 to 1400 pounds and bulls from 1700 to 2300. In color, red and white is preferable, but any shade of

red, mahogany, or brown with white spotting or almost all white is acceptable. The Ayrshire is noted for its long, curved, upstanding horns (*Figure 13*).

The **Brown Swiss** are large and probably the most rugged of the dairy breeds. Cows weigh from 1300 to 1400 pounds and bulls from 1800 to 2500 pounds. They are usually heavier boned than other breeds and slightly less refined. Color varies from a light fawn to an almost black, with mouse color very common (*Figure 13*).

Defects and Disqualifications

Every judge of dairy cattle is occasionally confronted with an animal with a defect, or one that is at a disadvantage such as a dry cow in a milking class, or a lame cow. In judging a class of four animals, an animal with a defect termed "slight discrimination" should be placed in second place, if the two animals are otherwise equal. An animal with a defect termed "serious discrimination" should be placed third or fourth, depending on the degree of seriousness, if the animals are otherwise equal. The term "disqualification" means the animal should be placed fourth.

RULES FOR EVALUATING DEFECTS

(Some of the rules published by The American Guernsey Cattle Club as a guide in evaluating defects are listed below. Most judges follow these rules when judging other breeds.)

Udder

1. Blind quarter, side leak in teat ..... Disqualification.
2. One or more light quarters, hard lumps in udder, obstructions in teat (spider) .....Slight to serious defect, depending on degree of seriousness.
3. Udder definitely broken away in attachment.....Serious discrimination.
4. A weak udder attachment .....
   Slight to serious discrimination, depending on degree. More serious in young cows.

Feet and Legs

1. Marked lameness, apparently permanent and interfering with normal function ..... Disqualification.
2. Lameness, apparently temporary and not affecting normal function, bucked knees, crooked hind legs, weak pasterns .....Slight to serious discrimination.
3. Enlarged knees, capped hip, with no marked disfiguration....Slight discrimination.

Shoulders

1. Winged ..... Slight to serious discrimination.

Eyes

1. Total blindness ..... Disqualification.
2. Blindness in one eye ..... Slight discrimination

Over-conditioned ..... Serious discrimination

Absence of Horns

1. An animal that has been cleanly and neatly dehorned, and whose head shows true breed character ..... Slight to no discrimination.

Dry Cows

In case of cows of apparently equal merit, give preference to cows in milk.

Apparently Temporary or Minor Defects

1. Blemishes or injuries of a temporary character, not affecting the animal's usefulness ..... Slight to no discrimination.

Evidence of Sharp Practices

1. Animals showing signs of having been operated upon or tampered with for the purpose of concealing faults in conformation, or with intent to deceive relative to the animals' soundness ..... Disqualification.
2. Heifers showing evidence of having been milked in an attempt to deceive regarding natural form of udder ..... Disqualification.

Testicles

1. Bull with one testicle or with abnormal testicles ..... Disqualification.

Figure 12.—Desirable type; **A**, Jersey bull; **B**, Jersey Cow; **C**, Holstein-Friesian bull; **D**, Holstein-Friesian cow.

Figure 13.—Desirable type: **A**, Brown Swiss cow; **B**, Ayrshire cow; **C**, Guernsey bull; **D**, Guernsey calf.

Judging Hogs

W. M. Beeson*

IN LEARNING to select hogs one should keep in mind that the characteristics desired in a breeding gilt or a good market barrow are based on the type of hog that is demanded by both the producer and the consumer. Not only must the hog have the right type and breed characteristics, but he must be able to reproduce his kind in an efficient and profitable manner. Factors which contribute to the utility value should be given major emphasis in selection of fat and breeding stock. A student should avail himself of every opportunity to see good breeding and fat hogs.

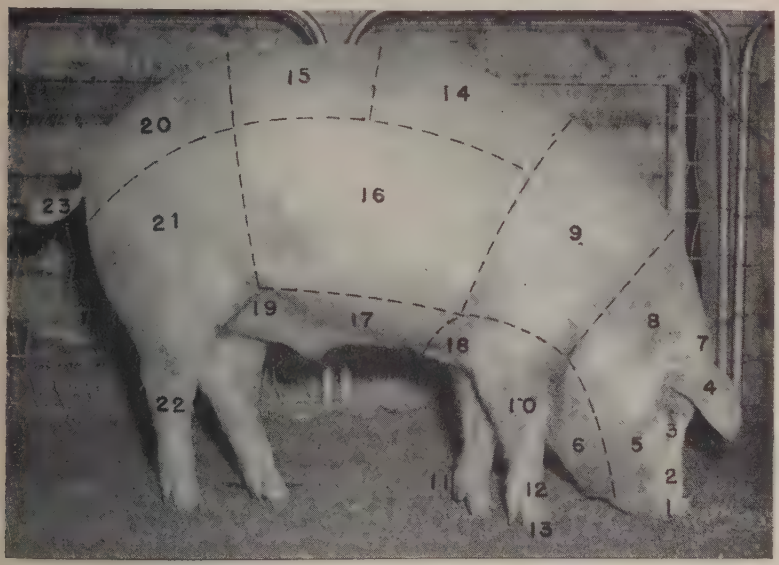

Figure 14.—Points of the Hog

1. Snout	7. Poll	13. Toes	19. Rear flank
2. Face	8. Neck	14. Back	20. Rump
3. Eye	9. Shoulder	15. Loin	21. Ham
4. Ear	10. Fore leg	16. Side	22. Rear leg
5. Cheek	11. Dew claw	17. Belly	23. Tail
6. Jowl	12. Pastern	18. Fore flank	

In learning to select hogs the student must first become familiar with the name and location of each part of the hog as given in Figure 14.

A working knowledge of these points will enable one to understand more completely the discussion that is to follow. This is basic information and must be thoroughly mastered before mental images of ideal types of swine can be formed.

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SWINE JUDGING CARD

University of Idaho—Department of Animal Husbandry

Points to Consider	Placing 1st	2d	3d	4th
I. General appearance—Wide back; long, deep and smooth side; uniform arch; deep heartgirth and full rear flank; deep, full ham with short shank; uniform width and smooth shoulder; trim underline; neat jowl and neck; and sound, well placed feet and legs				
II. Form				
1. Head and Neck—broad, clean cut and neat, large prominent eyes, wide forehead, medium size ears, trim and smooth jowls and cheek and a short well-developed snout. Neck should be medium length and blend in smoothly with shoulder. (In breeding classes, breed type and character should be considered)				
2. Shoulders—smooth, deep, full, neatly laid, smoothly covered with firm flesh, and with the same width and depth as the rest of the body				
3. Back and Loin—wide, good length, strong arch, firm and deep-fleshed				
4. Sides—long, deep, full at flanks, thickly and firmly fleshed, and free from creases and wrinkles				
5. Belly—trim, firm, straight—not flabby (in breeding gilts and sows there should be six pair of well-placed teats)				
6. Rump—wide, long, and conform in general form to the back and loin				
7. Ham—deep, full, wide, carrying down to hock, not flabby or wrinkled				
8. Legs and Feet—moderate length, straight ample bone, clean joints, wide apart, well set on outside of body, pasterns upright, toes not spreading and of equal size. (Feet and legs of minor importance in placing fat barrows)				
III. Finish—deep finish, uniformly and firmly laid over entire body. Overly fat wasty hogs are undesirable. (Breeding hogs only need to be well enough finished to show essential features to best advantage)				
IV. Quality—Smoothness in finish, fleshing and body form; free from wrinkles and flabbiness; refined hair, hide, bone, and head				
V. Dressing Percentage—High degree of finish, quality and trim middles result in high dressing percentage. (Fat hogs only)				
VI. Balance—Harmonious and symmetrical unity of all parts				
VII. Breed and Sex Character—As indicated by strong head, style, and breed type characteristics and ample masculine or feminine sex characters. (Breeding swine only)				

Essential Points in Hog Judging

A detailed and persistent study of the important points to consider in swine selection, and an evaluation and a discussion of these points are important in learning how to select hogs. Too often students are expected to place classes of swine without previous training in the fundamentals of judging, and as a result they get into bad habits and learn to guess rather than to judge.

A placable class of four hogs should be used to study the points given in "Swine Judging Card." The animals should be placed on each point and then the correct placing discussed by the instructor. This exercise should be repeated several times until the boys and girls are thoroughly familiar with the fundamentals in

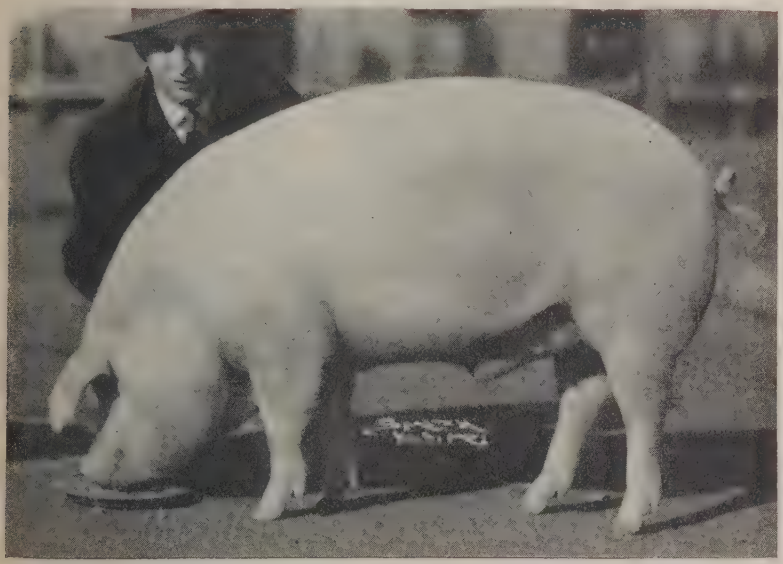

Figure 15.—Grand champion barrow, American Royal Livestock Show, 1939. Owned by Aaron Gritzmaker, Lahoma, Oklahoma.

swine selection. When this is mastered, the system of judging animals on final placing may be employed.

Fat Barrows

In the selection of fat barrows the student is often confronted with the problem of different types, such as the short chubby kind, the medium meat type, and the extremely smooth rangy type. Today the intermediate meat type of barrow is most acceptable, and a distinct variation either way should be discriminated against. Close observation of the pictures presented in this bulletin of market barrows will aid in establishing the right ideal (*Figures 15, 16*).

The three most important points in the selection of fat barrows are type, finish, and quality. The proper **type** is exemplified by a barrow that has a wide back, long and deep side, high arch, a wide loin, plump ham, and plenty of quality and smoothness.

The shoulders should be smoothly laid in, free from wrinkles, evenly and thickly covered, and trim of middle with a head and neck that is neat and trim and blends in neatly with the rest of the body.

Feet and **legs** are of minor importance in selecting fat hogs, but nevertheless a good set of well-placed straight legs contributes considerably to the balance, style, and attractiveness of a barrow.

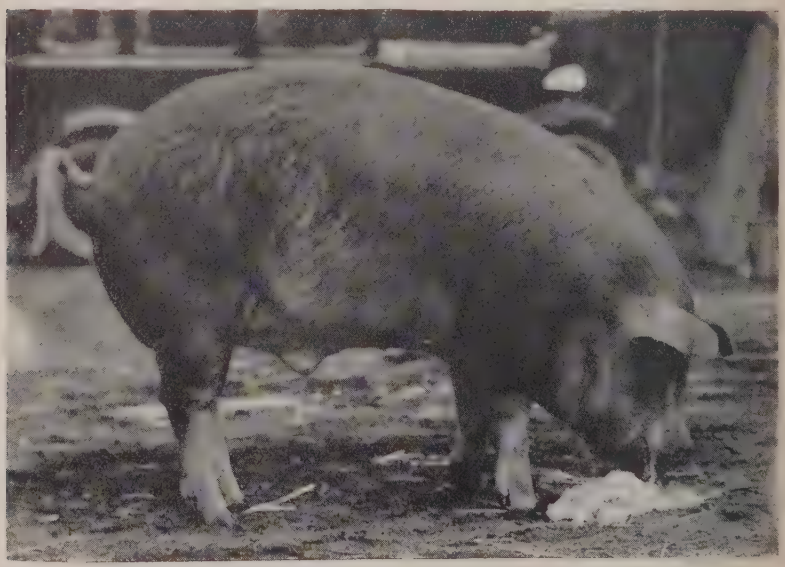

Figure 16.—Duroc barrow, grand champion barrow at the Pacific International Livestock Exposition, 1940. Bred and exhibited by the University of Idaho.

Finish is the most important factor in the selection of fat hogs. Regardless of type, if the hog does not carry enough finish to meet the market demand, he must be discriminated against. Judges and packers prefer a barrow that is firmly and evenly covered with a deep covering of fat over the back loin and shoulders, and lets down into a plump firm ham. Long ham shanks are undesirable. Short-sided, overly fat, wasty-middled hogs hang up undesirable carcasses and are not the kind to place up.

Quality in a barrow is denoted by firm fleshing, smooth sides, absence of wrinkles, a trim underline and middle, neat head and jowl, and a general smoothness and balance throughout.

Breeding Swine

In breeding swine more emphasis is placed on type, breed character, feet, and legs; and the degree of finish is usually of minor importance, excepting where it contributes to bringing out the good qualities of the animal. In general the same type that serves in the selection of fat market hogs should be used in selecting breeding stock, but allowances should be made for the usual difference in appearance due to the difference in finish between the market and breeding hog. Thus a breeding hog may look somewhat extreme in type when compared to a fat barrow.

A good gilt or boar pig should have the same type as previously described for a fat barrow, (excepting finish) and particular attention is paid to feet and legs that are sound and straight, and toes that are of equal length. The ideal ham is wide, deep, and is full down to the hock joint. Too many breeding gilts and boars have long ham shanks, and this type of ham does not meet with favor among the packers. The head must be typical of the breed, showing plenty of width in the eyes, medium length and with well-set ears. In gilts, feminine character should be evidenced by six pairs of well-placed teats and a clean cut feminine appearance throughout. A boar should exhibit strong masculine character, as indicated by general ruggedness, size of bone, vigor, and two well-developed testicles.

Study the pictures of excellent type breeding swine that are presented in Figures 17, 18, 19, and 20.

Procedure in Judging Hogs

In judging hogs it is best to stand back from the class a distance of about 25 feet and note from this point the arch of back; length of side; depth, width, degree of finish over back, loin, and ham; soundness of feet and legs; smoothness and quality; head type and character; and the general balance. In breeding classes more emphasis should be placed on breed type, head character, feet and legs, and less importance attached to finish. In fat classes, finish, quality, and trimness are primary. After the student has observed the hogs at a distance for 10 minutes, he may be allowed closer observation for a period of 3 minutes. Handling of hogs is not advisable excepting in close pairs in fat classes where there may be some doubt about the degree of fatness. The close observation period is not necessary and is usually not allowed in judging contests, except when hogs may pass near the side of the ring. Fifteen minutes is ample for placing a class of swine and even a shorter period is advisable in easy classes. Students should learn to judge rapidly. If reasons are to be given, ample notes should be recorded, listing the essential good and bad points on a card or notebook for future reference.

Distinguishing Breed Characteristics.

In the modern breeds of hogs the conformation and type are very similar and in general breeders are striving for the same common ideal. However, there are certain breed characteristics

Figure 17.—Berkshire sow, Advance Lady 23rd. Grand champion National Swine Show, 1936. Owned by E. J. Barker, Thorntown, Indiana.

such as color marking, head type, face characteristic, etc., which aid in distinguishing one breed from another. These breed characteristics have an association with good body type and prepotency which is important in selecting breeding stock. The pictures representing each breed should be studied carefully and the distinctive characteristic of each breed noted.

The **Berkshire** is easily distinguished from other meat type hogs because of the erect ears and pronounced dish to the face. They are black with six white points occurring on the feet, nose, and tip of tail.

Berkshires are exceptionally well sprung in the ribs, short-legged, and possess the ability to finish smoothly and firmly. Their sides are usually excellent in length, depth, and smoothness. The presence of coarse hair, whorls, or weak pasterns are discriminated against very severely.

Mature boars attain a weight of about 650 to 700 pounds, and mature sows weigh about 500 to 600 pounds.

The **Chester White** is a very broad, deep, thickly fleshed type of hog. The desirable type has a high arch, long side, and wide chest floor, with straight legs and short pasterns. Emphasis is placed upon well-sprung ribs, smooth shoulders, and plump hams. This breed should be well-balanced with neat head and ears and a moderate dish to the face.

Figure 18.—Chester White sow. No faults. Reserve grand champion National Swine Show, grand champion Iowa and Missouri State Fairs 1936. Owned by Callahan Bros., Milford, Illinois.

The color is solid white. Black hair disqualifies in the show ring, and dark spots on the skin are not desired.

Chester Whites are medium to large in size. Mature boars will weigh 650 to 800 pounds and mature sows 500 to 650 pounds. Hogs in show condition may be heavier and extremely thin animals lighter than the above weights.

The **Duroc** (formerly called Duroc-Jersey) is entirely red, varying in shade from a light sandy to a deep cherry red color. White spots and whorls disqualify from registration. Occasionally Durocs have one or more white feet, but they cannot be registered.

The head should be broad with a moderate dish and the ears of medium length and set well apart in front. The Duroc is strictly a meat type hog as indicated by a wide spring of rib, deep sides, full hams and high-arched back, and medium length legs. Judges prefer Durocs that are thick and smooth instead of narrow, rangy, and upstanding.

The Duroc is a large breed. Mature boars weigh 700 to 800 pounds and sows weigh 600 to 700 pounds. Many individuals exceed these weights.

The **Hampshire** is characterized by having a distinct white belt around the body at the shoulders and extending down over the forelegs, and the rest of the body is black. The breed association

Figure 19.—Grand champion Duroc sow Pacific International 1931. Bred and exhibited by the University of Idaho.

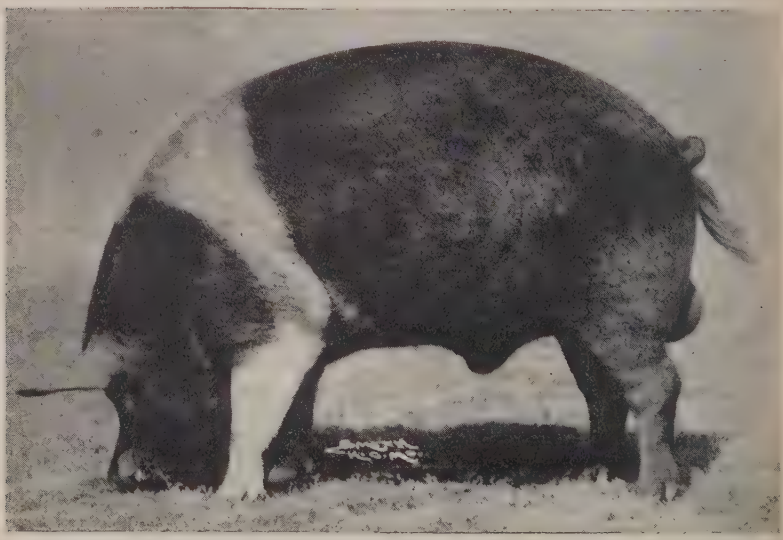

Figure 20.—Hampshire boar, Silver King, grand champion Hampshire boar, National Swine Show 1939. Owned by C. E. Griffith, Big Cabin, Oklahoma.

Figure 21.—Poland-China boar, Good Sign, Reserve champion at the National Swine Show, 1938. Owned by Oscar W. Anderson, Leland, Illinois.

disqualifies from registry Hampshires that are solid black; have one or both front legs black; have white higher than the hams on hind legs; have incomplete belts; are more than two-thirds white; or that have whorls.

The Hampshire is noted for its extreme smoothness, quality, and trimness of middle. This breed should exhibit quality combined with ample thickness and ham development. The bone is refined and the head is somewhat long and narrow, but more width is preferred. Uniformity from end to end should be emphasized in selecting Hampshires.

This breed is intermediate in size. Mature boars weigh from 550 to 700 pounds and mature sows in good condition, 450 to 600 pounds.

The **Poland-China** is a black breed with white markings on the face, tail, feet, and legs, and sometimes a white spot on the body. Too much white on the body meets with disfavor.

This breed is large and especially plump in the ham and deeply fleshed. A good breeding animal should have a wide head, moderately dished-face, high-arched back, deep and long side, and a trim underline. Quality should be emphasized especially about the jowl, underline, and hams. The bone is usually large and of good quality.

Figure 22.—Spotted Poland-China sow, At-A Lady 3. First senior yearling Nebraska State Fair, 1930. Owned by J. C. Malstin, Freemont, Nebraska.

The breed is distinctive for its balance, fleshing qualities, and constitution.

The Poland-China is one of the largest breeds. The boars often weigh from 800 to 975 pounds and sows in good condition, 650 to 800 pounds.

The **Spotted Poland-China** is distinctive in its appearance due to the white and black mottled color. The most desirable coloring is 50 per cent black and 50 per cent white. The breed association requires that not less than 20 per cent and not more than 80 per cent white occur on the body. Sandy or brown shades, or whorls in boars disqualify.

In general form they are similar to the Poland-China. Their bodies are deep, thick, and massive, and the bone is medium-sized and of moderate length. Breeders prefer hogs that are neat about the head, jowl, and ears, and firmly fleshed along the sides and hams. The best types have a highly arched back and ample quality.

The Spotted Poland-Chinas are large. Mature sows weigh 600 to 720 pounds, and boars, 750 to 850 pounds.

Bacon Type

The **Yorkshire** is a white hog with erect ears. The general type and conformation are denoted by less thickness, depth, and massiveness than the meat type hog. The breed is very smooth, long of side, trim of middle, and especially high in quality throughout. Length of side, firmness, and quality of the fleshing are emphasized.

Figure 23.—Yorkshire sow, Deer Creek Smooth Girl 18th, grand champion at the Iowa State Fair, 1939. Owned by B. F. Davidson, Menlow, Iowa.

Figure 24.—Tamworth sow, Home Farm Baroness IX, Junior Champion Iowa State Fair 1924. Owned by B. F. Harris Farms, Seymour, Illinois.

Hams that meat down to the hock are preferred. The head is distinctive because of its medium length, slight dish, and erect ear.

Yorkshires are medium in size. The mature boars should weigh 650 to 700 pounds and mature sows, about 600 pounds.

The **Tamworth** is light to dark red in color; a golden red is preferred. Their head, body, and general type is rather long and narrow. The face is very long from the eye to the nose. The ear is carried erect and pointed forward. Long sides, smooth shoulder, a high back, and trimness throughout are characteristic of this breed.

Tamworths lack the spring of rib, plumpness of ham, and depth of finish shown by the other breeds, but excel in the production of bacon.

Tamworths are light-weight hogs. Aged boars weigh around 650 pounds and mature sows about 550 pounds.

Judging Draft Horses

W. M. Beeson*

THE basis for the selection of draft horses is quite different from other types of livestock because horses are selected on characteristics which contribute to their ability to perform work. The ability of a horse to be a useful and flexible work animal depends in a large measure on his weight, muscling, feet, and legs, and the way in which he is able to move and perform work.

It is essential, especially for the beginner, to become familiar with the names of the various parts of a horse. The names of these

Figure 25.—Points of the Horse

1. Muzzle
2. Nostrils
3. Face
4. Eye
5. Forehead
6. Ear
7. Poll
8. Cheek
9. Jaw
10. Throatlatch
11. Neck
12. Crest
13. Shoulderbed
14. Shoulder
15. Withers
16. Point of shoulder
17. Breast
18. Arm
19. Elbow
20. Forearm
21. Knee
22. Cannon
23. Fetlock joint
24. Pastern
25. Foot
26. Heart girth
27. Ribs
28. Back
29. Loin
30. Underline
31. Rear flank
32. Fore flank
33. Coupling
34. Croup
35. Tail
36. Point of buttock
37. Quarters
38. Thigh
39. Sheath
40. Gaskin
41. Hock
42. Stifle

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DRAFT HORSE JUDGING CARD

University of Idaho—Department of Animal Husbandry

Points to Consider	Placing 1st	2d	3d	4th
I. General Appearance				
1. Type — massive, heavily muscled, short-coupled, and well-balanced body and underpinning				
2. Substance—heavy bone, large feet, strong joints, and heavy muscling				
3. Quality—smooth bone and joints; clean hoof heads, knees, and hocks; smooth skin and hair; and clean cut features about the head and neck				
4. Balance—a harmonious combination of all parts of the body into a symmetrical and well-proportioned animal				
5. Style—alert and attractive appearance when set or in action				
II. Feet and Legs				
1. Fore legs				
(a) Feet—large and round, deep and wide at the heel; horn, dense and tough; hoof-head open and clean				
(b) Pasterns—medium length, strong, flexible and slope at an angle of 45 degrees				
(c) Cannon bone—wide, flat, large tendons, medium length, ample substance, and joined neatly to a strong knee and a large foot				
(d) Knees—strong, broad, deep and straight, tapering gradually and smoothly into the cannon				
(e) Set—viewed from the front a perpendicular line from the point of the shoulder should bisect the knee, cannon and foot. From the side a perpendicular line dropped from the center of the elbow joint should fall upon the center of the knee and pastern and back of the hoof				
2. Hind Legs				
(a) Feet—large, round, deep, wide at heel, hoofs dense, smooth and free from cracks. Hoofheads open and clean				
(b) Pasterns—long, sloping (50 degree angle), clean and strong				
(c) Cannon bone—short, wide and flat with tendons large and clearly defined				
(d) Hock—wide, deep, clean-cut, strong, and free from meatiness or fullness				
(e) Set—viewed from the rear a perpendicular line drawn downward from the point of the buttocks should fall in line with the center of the hocks, cannons, pasterns, and feet. From the side a perpendicular line drawn downward from the point of buttock should just touch the back edge of the cannon from the hock to the fetlock				

DRAFT HORSE JUDGING CARD—(Cont.)

Points to Consider	Placing 1st	2d	3d	4th
III. Body				
1. Muscling—heavy, well-proportioned muscling in the quarter, stifle, gaskin, arm, and forearm				
2. Croup—wide, long, and level with broad smooth hips				
3. Coupling—short, wide, and strongly muscled				
4. Ribs—deep, well sprung, closely ribbed to hip				
5. Back—broad, short, muscular, and nearly straight				
6. Withers—smooth, extending well back, same height as hip				
7. Shoulders—deep, muscular, neatly laid, with good slope (45 degree angle)				
8. Chest—deep, wide, and low; girth large				
IV. Head and Neck—the head should be in proportion to the body with a broad muzzle, clear prominent eyes, and full forehead, medium length and gracefully carried ears; and a lower jaw with plenty of width and muscling. In addition the head should have a combination of features that indicate quality, vigor, character, and intelligence. The neck should neatly blend into the shoulder, be of medium length, and well-muscled				
V. Action—stride long, smooth, true, and aggressive; coordinated flexion of knees and hocks; springy, energetic				

parts are given in Figure 25 and a discussion of these parts is given in the subsequent pages.

A student should become thoroughly familiar with the location, relative importance, and terminology associated with each part of a horse. A study should also be made of the pictures of the various breeds of horses as an aid in learning the ideal draft type.

Essential Points in Judging Horses

Scoring the draft horse

In order to familiarize the student with the principles involved in the selection of horses, a class should be provided whereby two or more horses can be placed according to excellence on the various points given on the card. This score card serves as a guide in acquainting the student with the various points to consider in horse selection. Each point should be carefully considered, and a thorough fundamental knowledge of the various points and their relative importance must be mastered before the system is discarded. After the student is thoroughly familiar with the points this system of judging may be replaced with the use of only the final placing.

Draft Horse Type

In addition to the points already discussed in the "draft horse judging card," further emphasis should be placed on certain essential characteristics of good draft type.

In **general appearance** the ideal draft horse should be massive, low-set, heavily muscled, straight of topline, short-coupled, level in the croup, and nicely balanced throughout (*Figures 34-38*). He should have large, clean, flat bone which is properly placed on four large round feet. The neck should blend in smoothly with the shoulder and the head should have a clean cut, alert, and sensible appearance. Heavy draft horses weigh from 1800 to 2200 pounds and attain a height of 16 to 18 hands (one hand is 4 inches). Handy weight farm horses weigh from 1500 to 1700 pounds and are from 15 to 17 hands in height.

Feet and legs: Feet are so important in the selection of horses that it is common horse language to hear the statement "no foot,

Figure 26.—A pair of shapely and well-balanced feet.

no horse." Ideal feet (*Figure 26*) are large and round, deep and wide at the heel with open hoofheads.

The wall of the foot should be dense and tough. The pastern should blend smoothly into the hoof at a 45 degree angle.

The legs should be set squarely on the corners of the body in a manner illustrated in Figures 34 and 35. Hard flat bone of ample size coupled together with clean knee and hock joints makes a very durable and correct type of leg. It is very necessary that the hocks are wide, flat, clean, and free from meatiness or puffiness. Horses that are "sickled hocked" are usually poor movers and are more disposed to unsoundness.

The set of the legs is an important consideration in the selection of horses. The student should study Figures 27, 28, 29, and 30 and become familiar with the correct position of the front and hind legs from each view, as well as the more common faults illustrated.

Figure 27.—Front view of fore limbs

A perpendicular line drawn downward from the point of the shoulder should fall upon the center of the knee, cannon, pastern, and foot. (1) Correct conformation; (2) slightly bow-legged; (3) close at knees and toes out; (4) toes in; (5) knock-kneed; (6) base narrow; (7) base wide.

Action. The action of a horse is influenced principally by the following: set of feet and legs, body conformation, shoeing, and training. Thus one can usually detect major faults in action by knowing the relation between the various faults of conformation and action. "Pigeon-toed" horses may "paddle" or "wing"; "toe-wide" feet cause "interfering"; horses that stand with wide hocks may travel "wide at the hocks"; extreme width at the chest usually causes a horse to "roll," and very short-bodied horses may "forge" or strike the front supporting foot with the rear foot.

At the walk, good action is characterized by a straight, true stride of considerable length. The action should denote aggressiveness and boldness. The underpinning should be handled with snap, and should show ample flexion of the knees and hocks (*Figure 31*). The feet should describe an arc as they are lifted from the ground, carried forward in a straight manner, and then placed squarely on the ground. As the horse walks, one should determine whether the

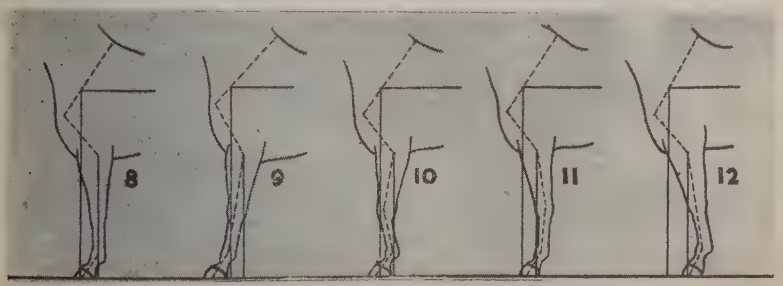

Figure 28.—Side view of fore limbs

A perpendicular line drawn downward from the center of the elbow point should fall upon the center of the knee and pastern and back of the foot, and a perpendicular line drawn downward from the middle of the arm should fall upon the center of the foot. (8) Correct conformation; (9) leg too far forward; (10) knee sprung; (11) knees set back; (12) foot and leg too far back.

Figure 29.—Side view of hind limbs

A perpendicular line drawn downward from the hip point should fall upon the center of the foot and divide the gaskin in the middle. A perpendicular line drawn downward from the point of buttock should just touch the upper rear point of the hock and fall barely behind the rear line of the cannon and fetlock. (13) Correct position; (14) leg too far forward; (15) entire leg too far under; (16) entire leg too far back.

horse has any undesirable motion such as swinging the feet outwardly, or inwardly, or crosswise, or with a rope-walking step.

At the trot the horse should move out with plenty of flexion in the knees and hocks (*Figure 32*). He should carry his legs squarely under him without movement of any kind that is out of line with true action. The hocks must be brought inward and close together with trueness and smoothness of stride that is characteristic of efficiency. At both the walk and the trot a good mover has an aggressive, true, and flexible stride.

Some of the common faults in action are:

Paddling—throwing out a front foot as it makes a stride.

Interfering—brushing the fetlock of one leg with the other foot as it passes.

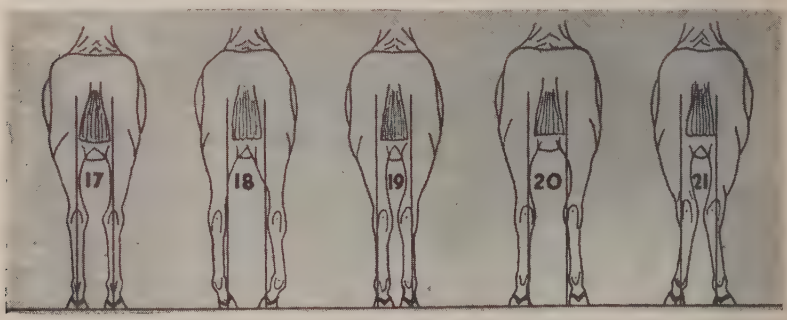

Figure 30.—Rear view of hind limbs

A perpendicular line drawn downward from the point of the buttocks should fall in line with the center of the hocks, cannons, pasterns, and feet. (17) Correct position; (18) too wide at hocks; (19) base too narrow and hocks too close; (20) base wide and hocks too far apart; (21) hocks too close together and toes too wide apart.—Courtesy, Wayne Dinsmore, Secretary, Horse and Mule Association of America.

Figure 31.—Clydesdale gelding. Note straight stride and the manner in which feet clear the ground. Note also springy pasterns and flexing in knees and hocks.

Forging—striking the under surface of the shoe on the front foot with the toe of the hind foot.

Rope-walking—Placing one foot in front of the other foot, thus tending to walk with both feet on the same line.

Rolling—Undue motion of shoulders, found in horses with excessive width between the shoulder points.

Daisy cutting—a low, skimming action that does not allow enough ground clearance.

Unsoundness and Blemishes

Unsoundness frequently occurs in horses, and therefore a student should be able to identify the more common unsoundnesses, as well as learn how much to discriminate against them in placing horses. Blemishes are the result of mechanical injury and may detract from the appearance of a horse or in some cases result in permanent unsoundness. Blemishes are not discriminated against as severely as transmissible unsoundnesses, which are due to faulty conformation. Usually judges and buyers discriminate severely against any "hereditary" unsoundness such as bog or bone spavin, curb, ringbone, roaring, cataract, and stringhalt. A horse is always disqualified for going lame, being blind, or, if a stallion shows only one testicle. The location of some of the common unsoundnesses are given in Figure 33.

Some of the common unsoundnesses are:

Side bones—a hardening of the lateral cartilage on the side of the foot toward the rear quarter of the hoofhead.

Figure 32.—Clydesdale gelding. Note manner in which he picks up his feet and flexes the hock.

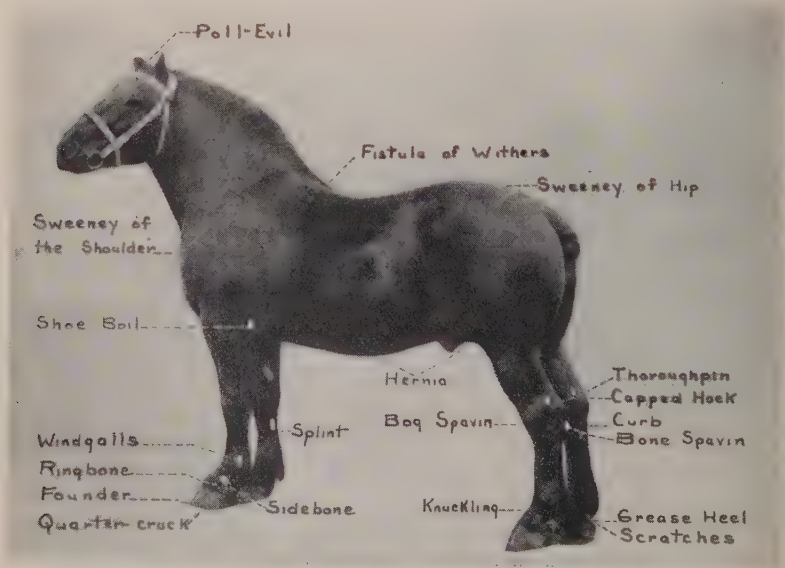

Figure 33.—Location of common unsoundnesses and blemishes.

Figure 34.—Rowdy de Or, 17412, grand champion Belgian stallion National Belgian Show and International Livestock Show, Chicago, 1934 and 1935. Owned by H. C. Horneman, Danville, Illinois.

Ringbone—a bony enlargement involving the pastern bones.

Curb—a thickening of the tendon which lies 5 to 6 inches below the point of the hock.

Splint—bony enlargement of one or both of small bones lying below the knee on each side of the cannon bone. It usually occurs on the inside of the upper part of the front cannon bone.

Thoroughpin—a puffy swelling which occurs on each side of the gaskin.

Bog spavin—a puffy swelling of the hock, usually on the inside and front of the hock.

Capped hock—an enlargement of the point of the hock.

Roaring—abnormal breathing which causes a horse to roar or whistle when respiration is forced. The whistling sound is made only on inspiration of air.

Heaves or broken wind—difficult respiration characterized by abnormal exhaling.

Figure 35.—Prince Cedrick 3rd, 23341, champion Clydesdale stallion International Livestock Show 1933. Owned by Strigham Bros., Dexter, Iowa.

Procedure in Judging Horses

In judging a group of horses, the first observation should be made about 25 feet from the class. At this distance the student should observe the draftiness, muscling, set of legs, strength of top line, style, and balance.

Close inspection should then be made paying particular attention to size of feet; depth of heel; slope of pasterns; size of bone; knee and hock joints; set of hock; muscling in gaskin, stifle, and quarters. Then observe the levelness of croup; shortness of coupling and back; depth of rib; slope of shoulder; and character about the head and neck. In making the detailed study one should look for unsoundness and use the hands for checking only apparent unsoundness. The student must not lose sight of the fact that feet and legs, muscling, quality, and action are the most important in selection. Details must not be emphasized to the point where they may mask more important draft horse values.

In studying action the horse should be observed as he goes away and returns at both the walk and trot (*Figures 31, 32*). The walk is the most important gait in draft horses. At the walk one should

Figure 36.—Carnona II, 158285, chosen as the ideal type Percheron mare. She was grand champion at the 1922 and 1923 International Livestock Expositions, and at the Ohio State Fair. Bred by the late W. S. Corsa, Whitehall, Illinois, and owned from 1925 to 1934 by W. H. Butler, Columbus, Ohio, in whose hands she proved to be a great producer and show mare.

note the trueness, length and boldness of stride. At the trot attention should be paid to precision and flexibility of stride and the flexion of knees and hocks. Watch the movement of the animal's head and hips to see whether there is indication of lameness. A lame horse is always placed at the bottom of the class. After the student has observed the action the horses should again be observed at standing for final check-up.

In placing a class it is advisable to set up a tentative placing as soon as possible by picking out the top pair or a top and easy bottom with a close middle pair. The remainder of the time should be used in analyzing the close pair or pairs, and checking the placing to see if there is sound reason for your judgment. If reasons are to be given sufficient notes should be taken on the outstanding good and bad points about each animal so that the class may be accurately recalled even after considerable lapse of time.

Figure 37—Tatton's Empress, grand champion Shire mare at the International Livestock Show, Chicago, 1935. Owned by Babson Farms, De Kalk, Illinois.

Distinguishing Breed Characteristics

Although the different breeds of draft horses have the same common ideal draft form, there are certain breed characteristics which contribute to the individual breeds. The principal characteristics which go to make up breed type are color, color markings, size, hair on the legs, action, disposition, and shape of body. A knowledge of breed characteristics is very helpful in judging breeding classes and enables a student to determine the correct breed type and to recognize breed character.

Belgians are very muscular and drafty bodied and have large feet and bone (*Figure 34*). They are deeper bodied in relation to the length of leg when compared with other breeds. Considerable emphasis is placed on high quality bone and joints and a free moving bold action. The most common colors are bay, chestnut and roan. White markings are frequently found around the pasterns and on the face. Chestnut horses may have flaxen colored manes and tails. "Strawberry roans" also occur quite frequently, especially in certain lines of breeding.

Figure 38.—A Suffolk mare of excellent type. Owned by Mr. Owen Smith, Langham, Oakham, Rutlandshire, England.

Belgians are a large draft breed which will weigh from 1600 to 2000 pounds and stand 16 to 17 hands in height. It is not uncommon to find stallions which weigh more than a ton.

Clydesdales are characterized by the long "feather" on their feet and legs and by the presence of white on the legs which may extend to the knees and hocks (*Figure 35*). Bays and browns are the most popular colors, but occasionally blacks, chestnuts, roans, and grays occur. The face has a white stripe or blaze.

Clydesdales are noted for their excellent quantity of clean flat bone and joints and exceptional flexion of their knees and hocks at both the walk and the trot.

This breed is distinctive in its appearance because of its exceptional style, flash, and quality. Clydesdales have long muscles and more scale in proportion to their weight than the Belgians or Percherons. Good draft stallions should weigh from 1700 to 1900 pounds and mares from 1600 to 1750 pounds. The average height varies from 16 to 17 hands.

The **Percheron** shows considerable balance in draft conformation and the best Percherons are short-coupled, heavy-boned, and

thickly muscled with a good set of feet and legs and plenty of snap to their action (*Figure 36*). Percheron breeders prefer black and gray colored bodies, but occasionally browns, bays, chestnuts, and roans occur. Color markings are found in the form of a white star or stripe on the face or a white foot.

Percheron stallions should weigh from 1800 to 2200 pounds and mares from 1600 to 1900 pounds. The height may vary from 15 hands 3 inches to 17 hands high.

The **Shire** is the largest and most rugged of draft horses, weighing from 1800 to 2300 pounds (*Figure 37*). They are very heavy-boned horses with considerable scale and massiveness of body, and feather or long hair is found on the legs. The face is usually slightly Roman-nosed with a white stripe or blaze. One or more of the legs is usually white to the knees or hocks. The leg action is very bold and long of stride but may lack some in activity. The common colors are bay and brown, with white markings, although blacks, grays, chestnuts, and roans are occasionally seen.

The **Suffolk** is the smallest of the draft breeds, with stallions weighing about 1900 pounds and mares about 1600 pounds (*Figure 38*).

The most distinguishing breed characteristic is the invariable chestnut color with very little white. They have a rotund body, and medium-sized bone and feet (*Figure 38*). The Suffolk has very shapely feet, a good disposition, and is of a handy weight and tractable type.

Judging Sheep

D. E. Brady*

THE judging of sheep, particularly breeding classes, presents a somewhat more complicated task than the judging of some of the other classes of livestock. Not only are sheep divided into different types, but there are marked differences between the breeds within these types. It is advisable therefore that the beginner familiarize himself with the principal breeds and their various characteristics by observing them whenever the opportunity presents itself.

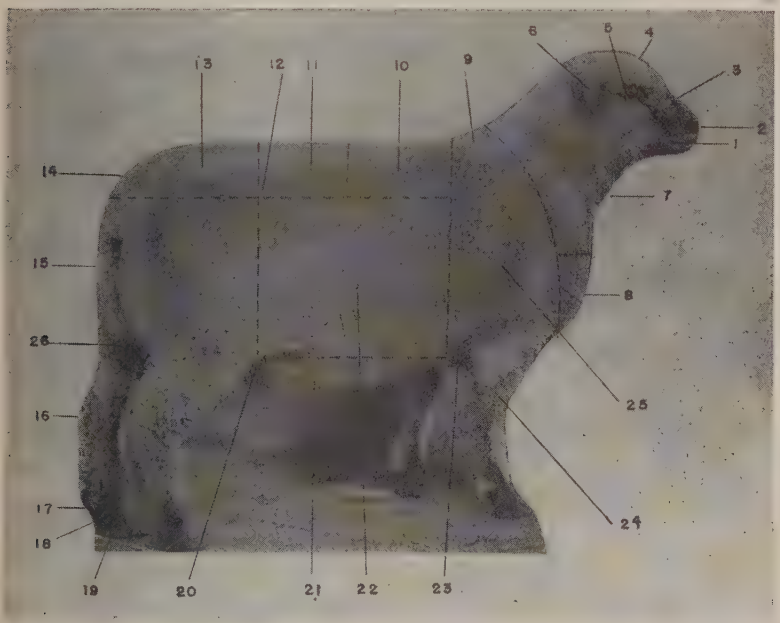

Figure 39.—Points of the Sheep

1. Mouth
2. Nostril
3. Face
4. Forehead
5. Eye
6. Ear
7. Neck
8. Breast
9. Top of shoulder
10. Back
11. Loin
12. Hip
13. Rump
14. Dock
15. Thigh
16. Hind leg
17. Dew claw
18. Pastern
19. Foot
20. Hind flank
21. Belly
22. Ribs
23. Fore flank
24. Fore leg
25. Shoulder
26. Twist

In order to select sheep on the basis of merit, it is essential that the boy or girl learning to judge thoroughly familiarize himself with the names of the various points of the animal. This knowledge not only will be of value in understanding the discussion which follows but will aid in attaining a correct mental picture of the desired type. These points are shown in Figure 39.

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MUTTON SHEEP JUDGING CARD

University of Idaho—Department of Animal Husbandry

		Placing			
		1st	2d	3d	4th
I.	General Appearance—straight top and underline; deep, broad; uniform in width; low-set; compact; symmetrical and stylish; standing squarely; trim middle				
II.	Form				
	1. Head—face short; mouth and nostrils large; eyes large and clear; forehead broad; ears alert, not coarse; wide between ears				
	2. Neck—short, thick, full at junction with shoulder				
	3. Shoulder—even with body; compact on top; smoothly covered				
	4. Breast—full, deep, wide				
	5. Chest—wide, deep; full heart girth				
	6. Ribs—well sprung, long, close together, thickly covered				
	7. Back—broad, straight. (In fat sheep thickly fleshed)				
	8. Loin—thick, broad; (Well-covered in fat sheep).				
	9. Hips—neat; smoothly covered				
	10. Rump—long, wide, level				
	11. Thighs—deep, wide, full				
	12. Twist—deep, plump				
	13. Legs—straight, strong, fairly short				
III.	Finish—deep, even, firm covering over the loin, back, ribs, and shoulders. A thick dock, plump neck, and shoulder vein and full breast indicate a finished condition. (Finish is of great importance in fat classes but is not so important in breeding classes as long as the ability to take on finish is indicated.)				
IV.	Quality—bone clean cut; hair silky; wool fine, soft, and lustrous; pelt light				
V.	Dressing Percentage—high finish; light pelt; not paunchy. (Not considered in judging breeding sheep.)				
VI.	Breed and Sex Character—(applies only to breeding classes and will be discussed in the section dealing with the various breeds)				
VII.	Wool—characteristic of the breed, uniform in length of staple and fineness, free from kemp and dark fibers, dense and showing good character....				

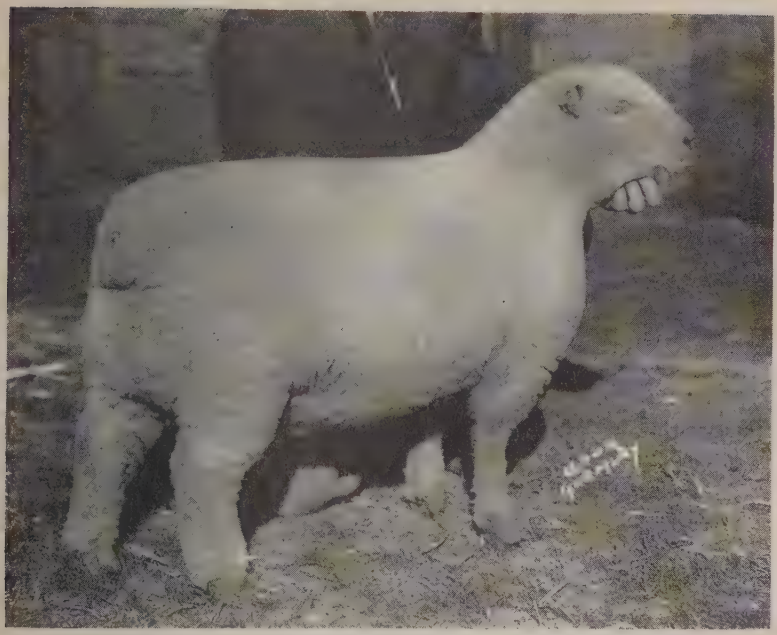

Figure 40.—A Southdown wether showing excellent conformation, quality, and body balance. Champion Southdown wether at the International Livestock Exposition. 1939. Owned and exhibited by the Pennsylvania State College.

Essential Points in Judging Sheep

After the beginner has well in mind the names of the different points of the sheep, he is ready to learn the ideal type sheep. Too often boys and girls start judging without even a fair understanding of what the ideal sheep should look like. As mentioned previously, there are several types of sheep; but as far as the beginner is concerned, the mutton type is the most satisfactory type with which to work in learning to judge. The mutton sheep judging card should be thoroughly studied, since it will help to fix in the beginners' minds the names of the various points of the animal together with the ideal type. The judging card is so set up that four animals may be scored on each of the described points. After the judging card has been filled out, the instructor should discuss the placings. When the boys and girls have thoroughly mastered this method of selecting sheep, they are ready to leave the score card and to judge the class on the basis of final placing.

Fat Sheep

In judging fat sheep, one must bear in mind the type of carcass that will be produced. Most fat sheep on the market are lambs, and, for convenience of discussion, this term will be used throughout. In judging fat lambs, the most important points to consider are *conformation, finish,* and *quality.*

The proper **conformation** in a fat lamb is best exemplified by a deep, broad, and compact body with the ribs well sprung and closely placed (*Figure 40*). The head should be neat and the neck short, blending smoothly into the shoulder. The back and loin should be wide and deeply fleshed, and the leg deep, wide, and plump.

Finish refers to the amount of fat the lamb is carrying and is the most important characteristic to consider in a fat class. Lambs which are lacking in finish are severely discriminated against since those which are carrying a good covering of fat will produce a greater percentage of carcass to live weight in addition to furnishing more palatable meat. The lamb should be thickly covered with fleshing on the shoulders and down over the ribs, back, and loin. A fat lamb will have a good deposit of fat at the dock while a thin lamb will be practically free from fat in this region. It is possible to have sheep excessively fat, but this is a rare occurrence, especially in lambs. The market discriminates not only against excess fat but also against finish which is not uniformly distributed.

Quality refers to refinement or freedom from coarseness. It is indicated by uniformity of fleshing, neatness of middle, refinement of bone, and general balance throughout.

Sheep with long, narrow heads, thin necks, long, crooked legs, bare backs, and rough, open shoulders are sharply discriminated against. Sheep with flat, open ribs; short, thin loins; drooping rumps; light hindquarters; with soft, rough patches about the dock; and a coarse sluggish appearance also meet with little favor on the market.

Breeding Sheep

With breeding sheep particular attention is paid to conformation, breed character, sex character, and quality; and in addition, some attention is given to fleece.

Conformation is of great importance in breeding sheep. The head should be broad and short, while the neck should be short, full, and blend smoothly into the shoulder. A good form is also denoted by a straight top and bottom line. Smooth, clean joints, and straight, strong legs which set squarely under the body are especially desirable since many sheep are subject to criticism in these respects.

Breed character is the sum total of those distinguishing points which enable one to distinguish one breed from another. These characteristics will be discussed in the description of the various breeds.

Sex character is associated with prepotency or the ability of an animal to transmit its characteristics to its offspring. Sex character in the ewe is indicated by a feminine head and neck and freedom from coarseness throughout. The ram should, however, show a pronounced robustness and strength of head and neck. Extreme coarseness in the ram should be avoided. A bold head, energetic walk, stylishness, and balance of body are desired in the ram.

Quality is likewise desired in breeding sheep. Particular attention should be paid to smoothness, freedom from rough joints and coarse, sluggish-appearing heads. It is possible, however, to obtain too much quality in breeding sheep since over-refinement may result in a loss of ruggedness, size, constitution, and vigor. In the breeding ewe particular attention should be given to soundness of udder and mouth.

Fleece characteristics will vary with the different breeds. The indications of a good fleece in all cases, however, are brightness, freedom from black fibers and kemp, uniformity in length and fineness over the body, and density. Fleeces which are dry handling or coarse about the rear legs or britch are not desired.

Procedure in Judging Sheep

Judging sheep in full fleece requires a considerable amount of handling to secure an adequate evaluation. Too often, however, the beginner fails to take advantage of what can be seen by the eye. In judging a class, it is advisable to stand back about 10 paces from the side of the sheep to note the general conformation. From this view the balance of body, depth of body, straightness of lines, and length of body can be seen, as well as the width of body and straightness of hind legs. The character of head, straightness and length of legs, and fullness and depth of breast can all be observed from the front. This general observation should take about 5 minutes. Next, the sheep should be handled to check on one's judgment. It is well to adopt a systematic method in handling sheep. One of the more common methods consists of grasping the neck to feel its shortness and fullness. Next feel the depth and plumpness of the breast. Then moving back, feel the smoothness of shoulder and note if the shoulders are open over the top. In all handling the fingers should be kept together and care exercised so as not to frighten the sheep. After handling the shoulders, move on back to note the width of back and loin, the spring of rib, and width and levelness of rump. Next, grasp high on the leg with one hand in back of the leg and one hand in front to determine the size of leg. If it is a fat class, then feel with the tips of the fingers the covering of flesh down over the back, rib, and loin, and grasp the dock to feel the amount of fat here. In breeding classes it is especially desirable to note the fleece. It should be parted in several places along the side to see the length, density, brightness, fineness, uniformity, and freedom from kemp and black fibers. The handling of four sheep should not require more than eight minutes. If reasons are to be given, the remainder of the time may best be spent in writing down a few notes.

Distinguishing Breed Characteristics

Classification of Sheep Breeds

In order to judge sheep according to their utility and merit, it is necessary to consider their classification into types.

Figure 41.—Hampshire ram, Polo Masterpiece. Grand champion at the Golden Gate International Exposition, Pacific International, 1939. Bred and exhibited by Polo Ranch, Big Horn, Wyoming, and owned by Lakewood Farm, Franklin, Indiana.

1. Mutton Type	Medium-wool breeds	1. Cheviot 2. Dorset Horn 3. Hampshire 4. Oxford 5. Shropshire 6. Southdown 7. Suffolk
	Long-wool breeds	1. Cotswold 2. Leicester 3. Lincoln 4. Romney
2. Fine-Wool Type		1. American Merino 2. Delaine Merino 3. Rambouillet
3. Crossbred Type		1. Columbia 2. Corriedale 3. Panama 4. Romeldale

Figure 42.—Suffolk ram, Brantham Royal. Champion Suffolk ram at the International Livestock Exposition, 1934. Imported and owned by Hob and Nob Farm, Francestown, New Hampshire.

The above classification groups the more common breeds of sheep into three classes. Each of these classes represents breeds of sheep which are bred for particular purposes. The mutton type differs from the other two types on the basis of the greater attention paid to mutton conformation rather than wool. The two subtypes, long-wool and medium-wool, are divided on the basis of wool characteristics such as length, fineness, and crimp.

The fine-wool types are bred primarily on the basis of wool characteristics rather than mutton conformation; although in case of the Rambouillet, equal attention is paid to conformation and wool.

The crossbred type is the result of crossing long-wool and fine-wool breeds and is consequently intermediate between the two types in mutton and wool characteristics.

In this bulletin only those breeds which are common to Idaho will be discussed.

Figure 43.—Southdown ram, William the Conqueror. Grand champion ram at the International Livestock Exposition, 1937. Owned and exhibited by Land O' Goshen Farms, Goshen, Kentucky.

Medium-Wool Breeds

In type these breeds are particularly adapted to converting feed into lamb and mutton. While some differences exist between the various breeds there are many characteristics which are common to approved specimens of all medium-wool breeds. If the beginner can master these points, he need have little anxiety concerning the differences between the mutton breeds.

The **Hampshire** is one of the largest of the medium-wool breeds. In appearance the Hampshire is large-framed, heavy-boned, and rugged throughout. The head is rather large, often tending toward coarseness. The points of this breed are dark brown to black in color. The ears are of medium length and thickness and extend slightly forward and downward from the side of the head. Light color or erectness of ear is undesirable. The face is sometimes wooled down below the eyes, although preferably only over the crown. The Hampshire generally shears 7 to 9 pounds of wool which will grade from ¼ to ⅜ combing. Mature rams in good flesh will weigh 275 pounds and over and mature ewes in good condition will generally weigh from 175 to 200 pounds.

Figure 44.—Champion Lincoln ram at the Ak-sar-ben Exposition, 1930. Owned and exhibited by the University of Wyoming.

The **Suffolk** is a large, rugged breed of sheep characterized by a stylish, bold carriage. The points are a deep black color. The face is decidedly Roman in profile and clean cut. The head from the ears forward is bare of wool as are the legs below the knees. The ears are longer, narrower, and generally thinner than those of the Hampshire and show a tendency to droop forward and downward. Narrow, shallow-bodied individuals standing on light bone are subject to severe criticism. The fleece is similar to that of the Hampshire except for a slightly lighter weight. In size the Suffolk is similar to the Hampshire.

The **Southdown** is particularly popular with junior livestock members for raising fat lambs. This breed is the smallest of the medium-wool type. The body conformation is ideal from a carcass standpoint, although from the producer's standpoint the breed is subject to criticism because of lack of size. The Southdown is extremely low set, blocky, and compact. They are characterized by a broad, plump breast; thick loin and full leg. The face is short and wide, mouse colored, and covered with wool down the sides of the face and over the crown. Southdowns will shear 5 to 7 pounds of wool yearly, which generally grades ⅜ combing or clothing. In

Figure 45.—Champion Rambouillet ewe at the International Livestock Exposition 1928. Owned by Bullard Bros., Woodland, California.

good flesh mature rams and ewes will weigh about 200 and 150 pounds respectively.

Long-Wool Breeds

The long-wool breeds are bred chiefly for their mutton characteristics. They are noted for their large size and long lustrous but decidedly open fleeces. In general they are rather open-framed, square-bodied, and broad-backed. In Idaho long-wool sheep have been used principally to cross with sheep of fine-wool breeding.

The **Lincoln** is the largest breed of sheep and also the most popular long-wool breed in the West. They are large-boned, rectangular in conformation and somewhat rough-fleshed. Approved type individuals have deep, wide bodies and large legs. The hair on the face and legs is white and the skin pink. The fleece ranges from 10 to 20 inches in length for a year's growth, is very lustrous and grades as braid. Ewes generally shear 12 to 16 pounds and rams 16 to 25 pounds. In good flesh mature rams will weigh over 300 pounds and ewes about 225 pounds.

Fine-Wool Breeds

The fine-wool breeds are especially adapted to the production of high quality fine-wool fleeces. They are more angular in ap-

Figure 46.—Corriedale ram. Grand champion ram at the American Royal, 1929. Owned and exhibited by King Bros. Co., Laramie, Wyoming.

pearance than the types previously discussed. They combine flocking instinct with hardiness and an ability to get along on sparse vegetation. Since a great deal of emphasis has been placed on wool, their mutton conformation is excelled by that of the mutton breeds. Good type specimens do, however, make a creditable showing when well fed out. There is considerable difference in the quality of fleece between individuals; but they should all have wool that is fine, uniform in length, even in yolk distribution, and of ample length. Rams are horned and ewes polled in the fine-wool breeds, although there are some exceptions.

Rambouillets are the most numerous breed of fine-wool sheep in the United States. In Idaho preference is given to open-face Rambouillets which are large-framed, rugged in constitution, and stand on plenty of bone. In judging Rambouillets, equal attention is paid to fleece and mutton characters. The most desirable conformation will approach that which has been described for the mutton breeds. The Rambouillet is well-wooled down the legs, and those parts which are not wooled are covered with silky white hair. The Rambouillet fleece should be dense, fine, and show a growth of two to three inches for the year. The fleece should be uniform throughout in respect to length, fineness, and yolk dis-

Figure 47.—A Columbia ram of excellent type. No. 899K, bred and owned by U. S. Sheep Experiment Station, Dubois, Idaho.

tribution. Ewes will generally shear 8 to 16 pounds of wool and rams 12 to 25 pounds. The average fleece weight on range ewes is, however, about 10 to 12 pounds. Mature rams in good condition and in full fleece will weigh 225 pounds and over and ewes under similar conditions, 150 pounds or more.

Crossbred Types

The crossbred types of sheep are the result of crossing long-wool and fine-wool breeds. These breeds are considered dual purpose breeds, and the character of the wool as well as the mutton conformation is carefully considered in judging. These types of sheep are particularly popular on the Idaho ranges where to a large extent they are crossed with Hampshires and Suffolks for the production of fat market lambs. All of these sheep are large and rugged, producing a ⅜ to ¼ blood fleece of staple length. Fleeces from good range ewes will average 10 to 12 pounds, while under farm conditions they will shear 2 to 3 pounds more.

The **Corriedale** is a breed of New Zealand origin which is the result of crossing Lincoln, English Leicester, and Border Leicester rams on Merino ewes. It is a hardy, vigorous breed which has reasonably good mutton conformation, although somewhat drooping in the rump and long of leg. They are active and show good refinement of head and bone as well as smoothness of flesh and form. The wool which grades ⅜ to ¼ blood extends to the eyes,

Figure 48.—An excellent type Panama ram, bred and owned by Laidlaw and Brockie, Muldoon, Idaho.

ears, and hocks. The color of the face, ears, and legs is white, although dark nostrils and hoof are preferred. Dark spots or dark wool on the legs is objectionable. Good fleece ewes will shear 10 to 12 pounds and the best rams 16 to 23 pounds. Under good range conditions mature rams and ewes will weigh 200 and 135 pounds and over, respectively.

The **Columbia** type sheep was developed by the United States Department of Agriculture, particularly at the United States Sheep Experiment station at Dubois, Idaho. Lincoln rams were crossed on Rambouillet ewes; and, through careful culling and selection, a fairly uniform type has been established. The Columbia is much the same type as the Corriedale, except larger, more rugged, heavier of bone, longer of leg, and more upstanding. Mature rams will weigh about 275 pounds and ewes from 125 to 150 pounds. The fleece weight is about the same as for the Corriedale and will grade quarter combing.

The **Panama** was developed by James Laidlaw of Muldoon, Idaho, by crossing Rambouillet rams on Lincoln ewes. It is very similar to the Columbia in regard to size, bone, and fleece characteristics, and is well adapted to conditions in Idaho and the neighboring territory.

Reasons

ALTHOUGH the giving of reasons, whether written or oral, often receives but little consideration in most "Junior Judging Contests," they are nevertheless very valuable in learning to do a good job in judging livestock. A student who has mastered the art of giving an accurate and effective set of reasons is generally more successful in his judging work. Practice in giving reasons will be a definite aid in teaching the boy or girl to think clearly, and to develop fluency, expression and poise in his or her manner of speaking, all of which are definite assets in other phases of life as well.

Since there is a considerable difference in the form used in giving reasons for dairy cattle as compared to beef cattle, sheep, hogs, and horses, a separate discussion will be presented.

Dairy Cattle

A good set of reasons should describe the class exactly as you see it, and should be given, to a certain extent, like a newspaper article. The opening sentence, or lead, should give an impression of the class as a whole, or the most striking feature of the class. The most striking feature of the animal will attract the attention of the judge.

In your reasons, the class should be sized up, either at the beginning or at the end. Whenever possible, make a logical division of the class, two good animals and two poor ones, or one outstandingly good one and one poor one.

Place the class in as few words as possible and still have a clearly stated reason for your placing. Never take up unimportant points in detail. If one reason is important enough to place an animal first, stop there; other reasons may weaken your placement.

In giving reasons, tell wherein A excels B; B excels C; and C excels D. Seldom does D require more than one or two sentences, but do not neglect the bottom animal. Do not say A has a better barrel than B, but state wherein A's barrel is superior to B's. Use comparative terms, such as longer, deeper, straighter, smoother, and more evenly balanced, more capacious, stronger, more desirable, etc. Mention the most striking point first, usually breed type and general appearance, udder, or capacity. If a pair is close, say so; if a cow has a slight weakness but is superior in other points to overbalance this weakness, mention the slight weakness in this manner: In spite of a slight weakness in attachment of udder, her superior breed type, great depth of body, spring of ribs, and smoothness justify placing above ———. Remember that each class is different from all others and the man who is able to adapt his method to the class will always give the best set of reasons.

Beef Cattle, Hogs, Horses, and Sheep

The ability to give an effective set of reasons is dependent on accurate observation, an effective livestock vocabulary, orderly system, and the ability to talk or write in an effective manner.

In order to be accurate in giving reasons, the student should form the habit of taking notes on the outstanding desirable and undesirable features of each animal. Accuracy in reasons is of first importance. A carefully chosen and large vocabulary will be helpful in making reasons specific and brief. The student should learn terminology that will serve adequately for the various types of livestock. A poor impression is made when a boy or girl is not capable of using the livestock language that is pertinent to the type being discussed.

Systematic organization of a set of reasons makes it easier for the judge to follow the discussion. One effective system of giving reasons is as follows:

I place this class of ——— name of class—2 - 1 - 4 - 3. I place 2 first—give the outstanding desirable points—but I criticize her for ——— give outstanding faults—however, I place 2 over 1 because ——— give main reasons for placing 2 over 1—Then proceed with 1, 4 and 3 in the same manner, and finally, tell why you placed 3 at the bottom. End your reasons by saying, —therefore, I place this class of ——— name of class — 2 - 1 - 4 - 3. (See example of reasons).

Reasons should be presented in such manner that a brief description, criticism, and comparison is given of each animal. This system involves comparing each animal with the ideal, which is done by giving the good and bad points, as well as comparing each individual with others in the class.

Be brief and clear cut in describing an animal. Remember each animal in the class has certain definite characteristics that set him apart from the other individuals. Look for the outstanding good and bad characteristics and "headline" these points in your reasons. In your comparison, tell principally why you placed the animal above over the animal below. Spend more time discussing the close pairs than on the animals that are easily placed.

As a further guide in giving reasons, a sample set on a class of fat steers is presented:

I placed this class of fat steers 3 - 4 - 2 - 1, placing 3 top. He is a blocky, low-set steer, carrying more finish over the back, ribs, and loin than any steer in the class. However, I fault him for cutting-up too high in the twist and being a little wasty in the middle, but I place 3 over 4 because he is thicker-fleshed, fatter, and deeper-quartered than the No. 4 steer.

I placed 4 second. A short, compact steer showing lots of quality and trimness, but I criticize him for lacking the finish and spring of rib of the steer I placed above. However, I placed 4 over 2 because he is deeper of body, lower set, with more covering over the back, ribs, and loin than 2.

I placed 2 third. I'll grant that he is a stronger-topped and wider-backed steer than the one I placed above. However, I place him third because he is shallow-bodied, upstanding, light in the quarters, and lacks the finish of No. 3. However, I placed him over No. 1 because he carries a deeper covering of natural fleshing and is fatter, especially over the ribs.

I placed No. 1 last. He is a shorter, more compact and typier steer than No. 2, but I placed 1 last because he is the thinnest steer in the class, lacking decidedly in finish and development of hind quarters and therefore would make the poorest killer and have the lowest dressing percentage in the class.

Therefore I place this class of fat steers 3 - 4 - 2 - 1.

Definitions

General

A **purebred** animal is one whose sire and dam are registered or eligible to registry in a recognized breed association. Do not use **thoroughbred.** The thoroughbred is the English running horse. Do not use the term **full-blood.** Use the correct term, **purebred,** or **registered** if the registration papers have been issued.

A **cross bred** animal is one whose parents are purebred, but of two different breeds.

A **grade** is an animal having a purebred for one parent and the other parent not a purebred.

A **scrub** is an animal of nondescript breeding—neither parent is purebred.

Type is a harmonious combination of those traits in an animal which contribute most effectively to the usefulness of that animal.

A **breed** is a group of animals of common ancestry which possess certain distinguishing characteristics differentiating them from other breeds of the same species and which have the ability to transmit these characteristics to their offspring.

A **pedigree** is a record or register of the ancestors of an individual animal.

Inbreeding is the mating of related animals. It may be subdivided into two kinds:

a. **Closebreeding** is the mating of closely related individuals such as full brother and sister, sire and daughter, son and dam.

b. **Linebreeding** is the mating of half-brother and sister or animals more distantly related, such as cousin matings. These matings are generally made to concentrate the blood of a particularly outstanding member of a pedigree while at the same time avoiding closebreeding.

Outcrossing is the mating of unrelated animals within a breed.

Cattle

Bull—A breeding male of any age.

Cow—A mature female.

Heifer—A female under 3 years of age which has usually not produced a calf.

Steer—An unsexed male, castrated early enough in life so that it does not show signs of masculinity.

Stag—An unsexed male castrated when sexually mature.

Spayed Heifer—An unsexed female.

Free-Martin—A barren heifer, imperfectly sexed, which is born twin with a bull calf. Not all heifers born twin with a bull calf are free-martins.

Polled—Naturally hornless.

Durham—An obsolete name for the Shorthorn breed.

Lactation Period—The time elapsing between the date of calving and the date that the cow becomes dry.

Blind Quarter—A quarter of the udder in which milk is not secreted.

Weak Quarter—A shrunken quarter or one smaller than the other three normal quarters but still secreting some milk.

Broken Udder (udder broken away in attachments)—A condition where the muscles attaching the udder to the body have become weakened and stretched to the extent that a space exists between the front part of the udder and the abdominal wall, giving the appearance of being broken away. In case of the "broken rear udder," the muscles at the top of rear quarters become stretched and do not hold the udder firm. An extreme case is the "pendulous" udder that hangs low and swings as the cow walks.

Weak Attachment—A condition showing a less degree of weakness than the broken udder. The udder is not held firmly to the body.

Hogs

Boar—A breeding male any age, usually 6 months of age or older.

Sow—A breeding female, over a year old which usually has farrowed a litter.

Gilt—A young sow, under a year, and which usually has not farrowed a litter.

Barrow—A male pig that has been castrated before sexual maturity. Pigs are usually castrated from 6 to 10 weeks old.

Stag—A male hog that has been castrated after sexual maturity. Stags are coarse about the head, neck and shoulders.

Horses

Stallion—A male horse, over 1 year of age.

Mare—A female horse, over 1 year of age.

Foal—A young male or female horse under 1 year of age.

Filly—A young female under 1 year of age.

Colt—A young male horse under 1 year of age.

Gelding—A male horse castrated under 2 years of age or before sexual maturity.

Stag—A male horse castrated after sexual maturity. A stag is usually coarse throughout and especially in the head and neck.

Sheep

Ram or **buck**—A sexed male of any age.

Ewe—A female of any age.

Lamb—A sheep under 12 months of age.

Wether—An unsexed male which has been castrated at a very early age.

Quarter-blood lamb—A lamb which carries approximately 75 per cent Rambouillet breeding and 25 per cent Lincoln breeding.

Black-face lamb—A lamb which is the result of the cross of a Hampshire or Suffolk ram with a Rambouillet or white-face ewe.

White-face lamb—A lamb produced from a cross of long-wool and Rambouillet breeding.

CLASSIFICATION OF WOOL AS TO FINENESS AND BREED

Classification	Name of Breed	Grade	
		Spinning Count	United States System
Fine wool breeds	Merino	64's-80's	Fine
	Rambouillet	64's-80's	Fine
		60's-80's	Fine and medium
	Southdown	56's, 58's, 60's	½ blood, ⅜ blood
	Hampshire	50's 56's	⅜ blood, ¼ blood
Middle wool or Medium wool breeds	Shropshire	50's 56's	⅜ blood, ¼ blood
	Suffolk	50's 56's	⅜ blood, ¼ blood
	Oxford	46's, 48's, 50's	¼ blood, low ¼ blood.
	Dorset	48's, 50's, 56's	
Crossbred breeds and types	Corriedale	48's, 50's, 56's, 58's	⅜, ¼, ½ blood
	Columbia		
	Panama		
	Romeldale		

Kemp—Malformed, inelastic, brittle, white fibers found frequently in the fleece of aged sheep. They are objectionable since they do not take dyes.

Run-out fleece—One that lacks uniformity in fineness. It is generally very coarse about the britch and is the result of poor breeding.

Frowsy—Wool that is dry, harsh, and lifeless.

Character—This term refers to a fleece with a well-defined crimp, good length, strength, softness, color, and uniformity.

Crimp—The wave noted in single wool fibers. In general, the more crimp per inch the finer the fiber.

Luster—The sheen or luster found particularly in the long-wool fleeces.

Yolk—The suint or grease of unwashed wool. The yolk is found in greatest amounts in fine-wool fleeces.

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